



ia.com/OmarSelim/



Building Information Management



Omar Selim

BIM Manager

Omar.selm@gmail.com

- Founder of BIMarabia
- BIM manager with 19 years of experience.
- Research Assistant at Qatar University









I am Omar Selim
Founder of BIMarabia

- BIM Manager
- CAD / 3D Visualization
- Specialist / CAD Manager / BIM Instructor / Technical Support Manager
- Member of IBPSA (International Building Performance Simulation Association),Engineers For a Sustainable Egypt
- Research assistant at Qatar University
- This experience includes architectural drawings , architectural planning and detailing. Expert user in Revit, NAVISWORKS, AutoCAD and QTO.
- I have been working in many projects using BIM technique starting from the Conceptual Design up to Construction documents, this projects include a lot of types, such as Hotels, mixed use building, Hospitals , Mosques, Villas

I am here because I love to share Knowledge.

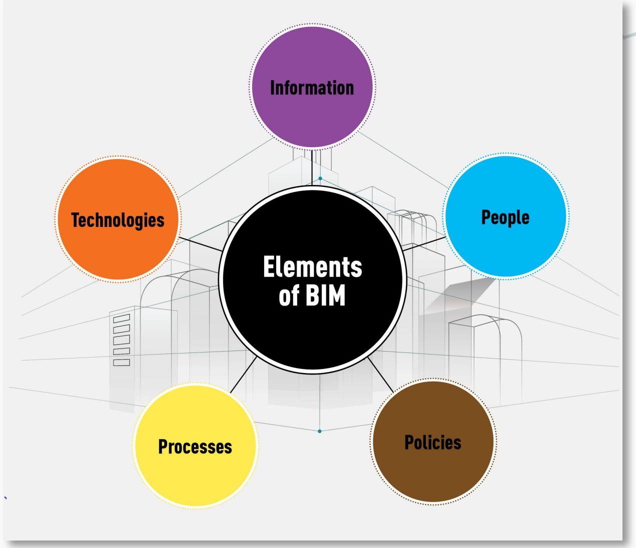
You can find me at @BIMarabia



https://bimarabia.com/OmarSelim/


How long will it take?
How much will it cost?
Planning Team
Pieter Bruegel the Elder - The Tower of Babel (Vienna). 1563

- Building Information Modeling **(BIM)** is a digital representation of physical and functional characteristics of a facility. A BIM is a shared knowledge resource for information about a facility forming a reliable basis for decisions during its life-cycle; defined as existing from earliest conception to demolition.





ref.: National BIM Standard – United States



Design perspective



Construction perspective



Facility managers' perspective

What is BIM ,, Building Information Modeling,,

BIM is

a Methodology

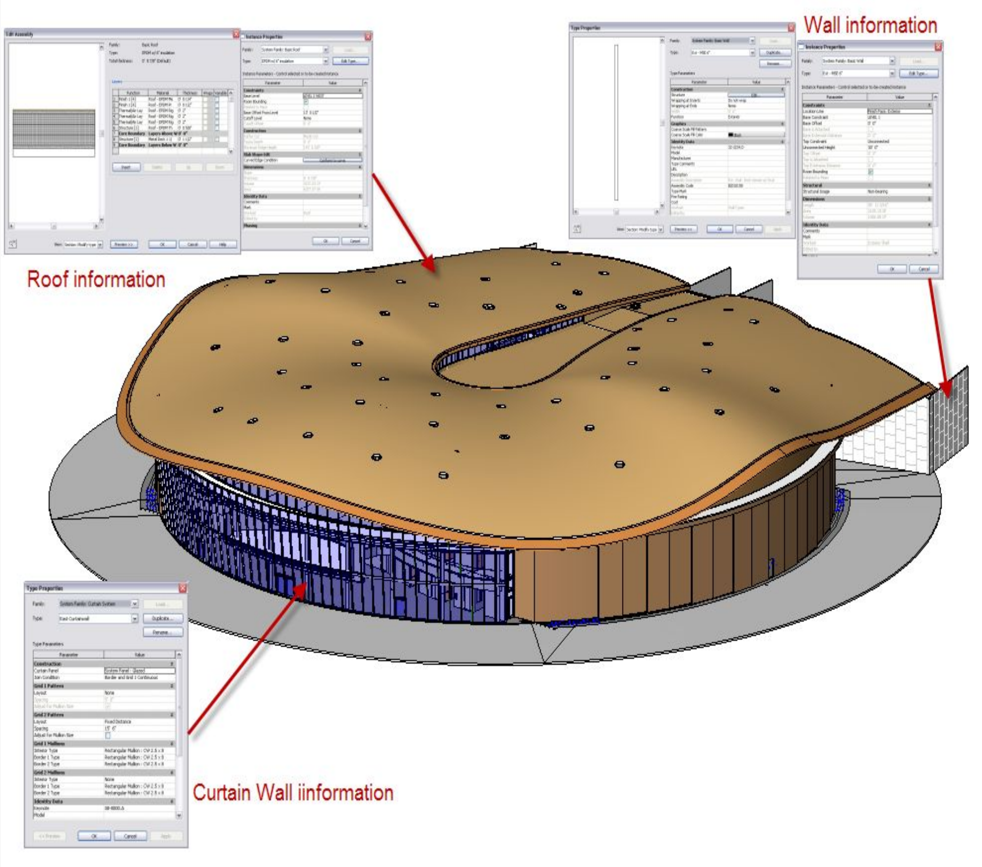
of gathering and maintaining

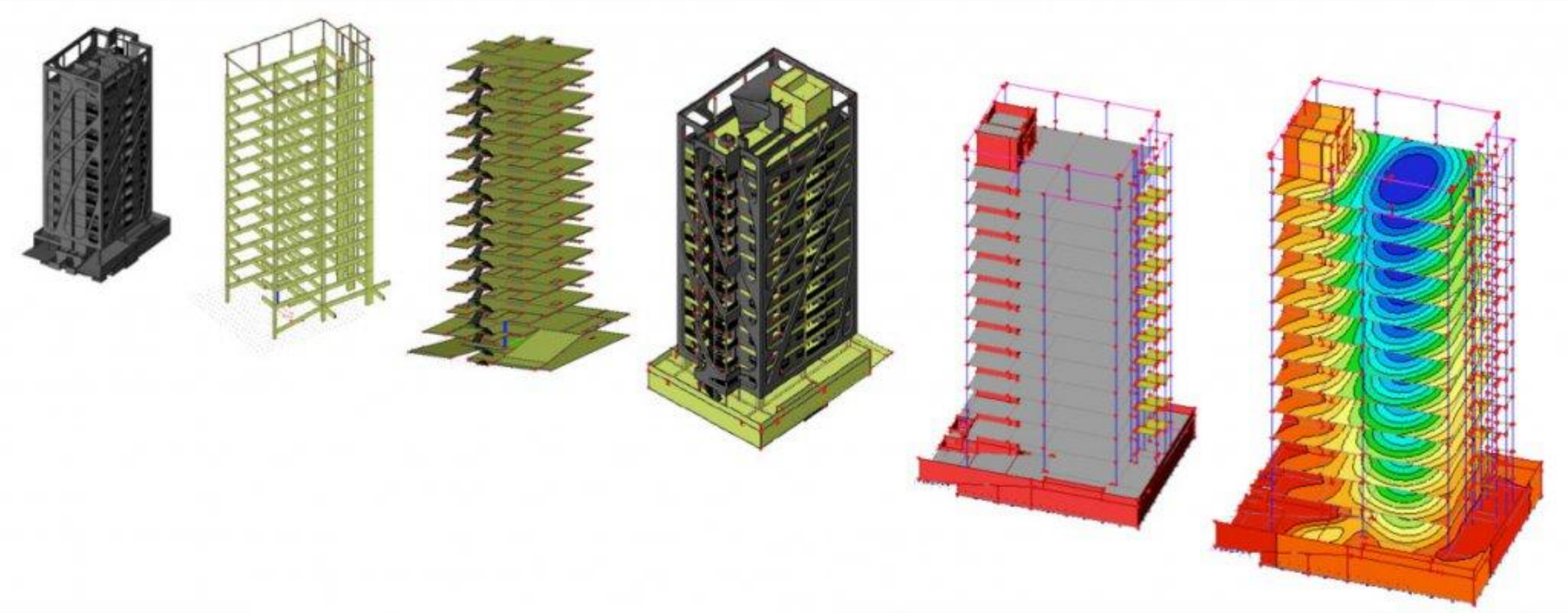
information

about a building for

quick decision making throughout

The life cycle of the building.



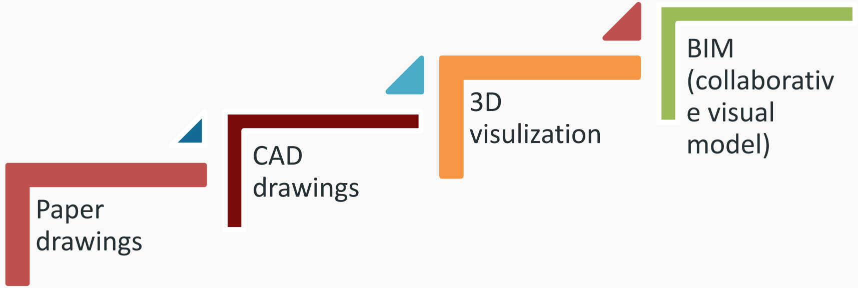


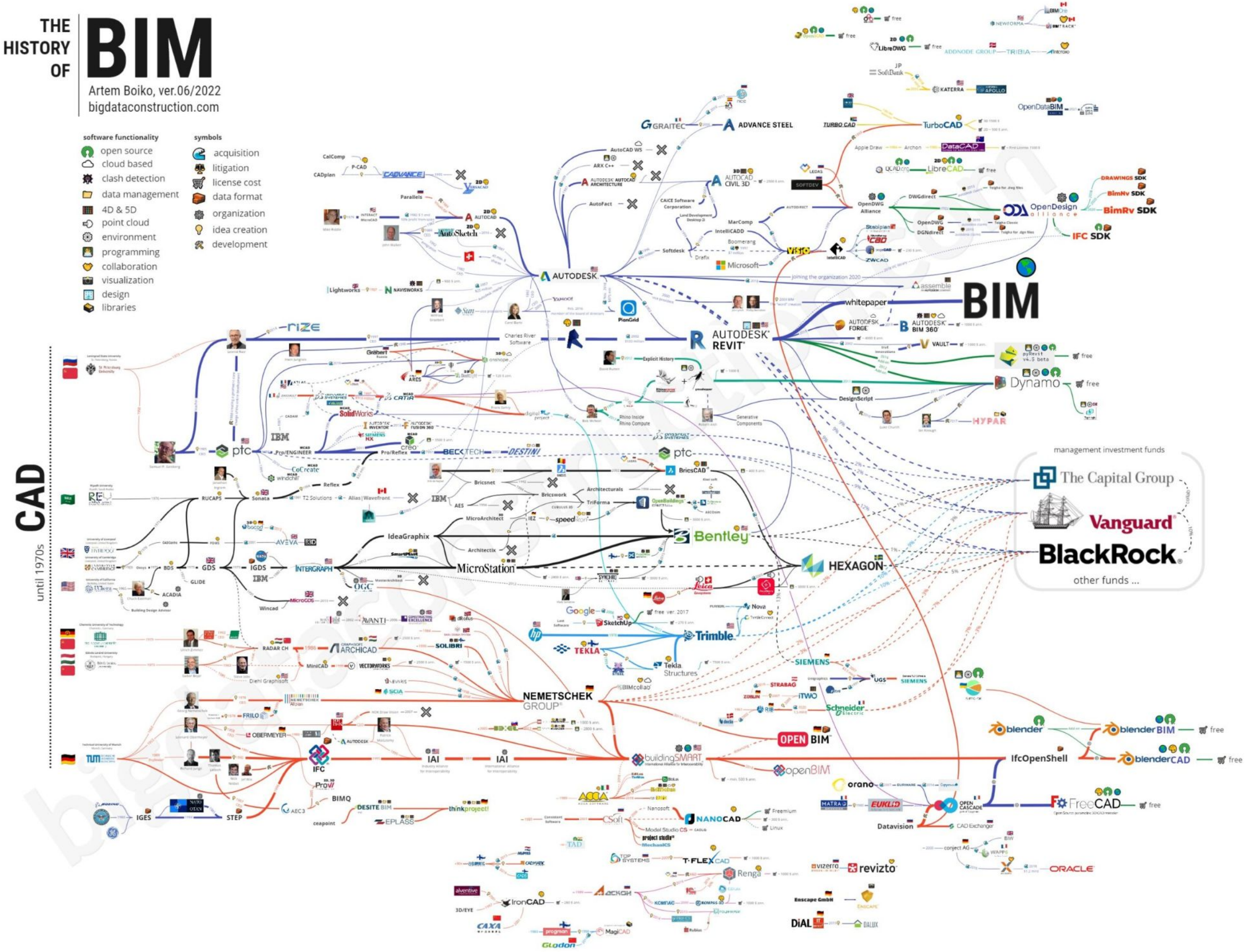
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BIM history

- The AEC industry practically started to implement BIM in projects from the mid-2000s, where a company has developed the Revit program which was written in C++ and utilized a parametric engine which was a revolutionary step
- Later in 2002, Autodesk purchased the Revit program and heavily invested in developing the program which provided a transitional approach to BIM .The developed software gives the industry an enhanced control over time, cost, and quality
- Despite that a fragmented management way still existed as each member of the team is working separately form the other members that makes a collaborative visual building model like the BIM model is required to fill in the gap of the virtual design concept
- During the last seven years, the term BIM has gone from being a buzzword to the centerpiece of the AEC technology

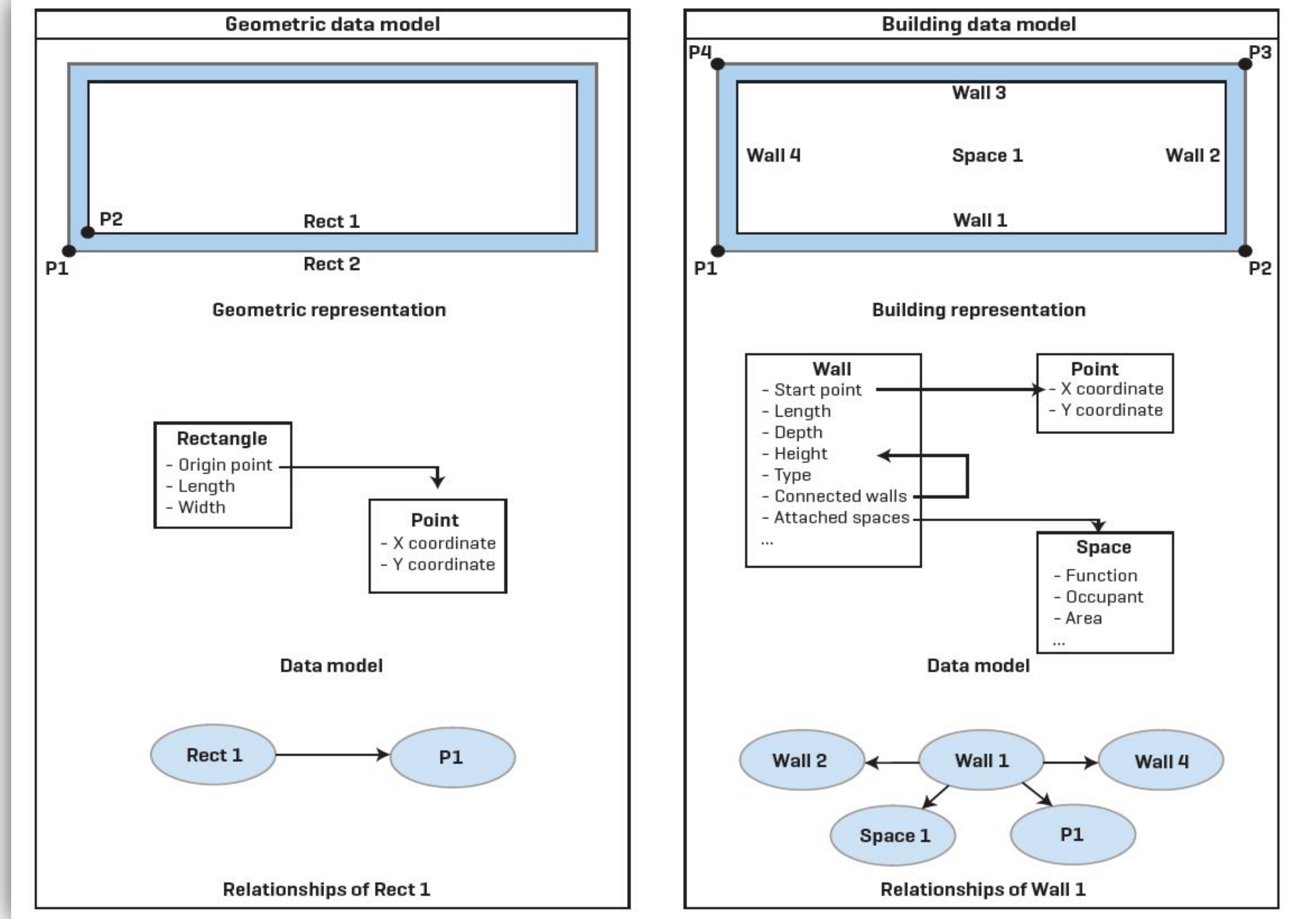






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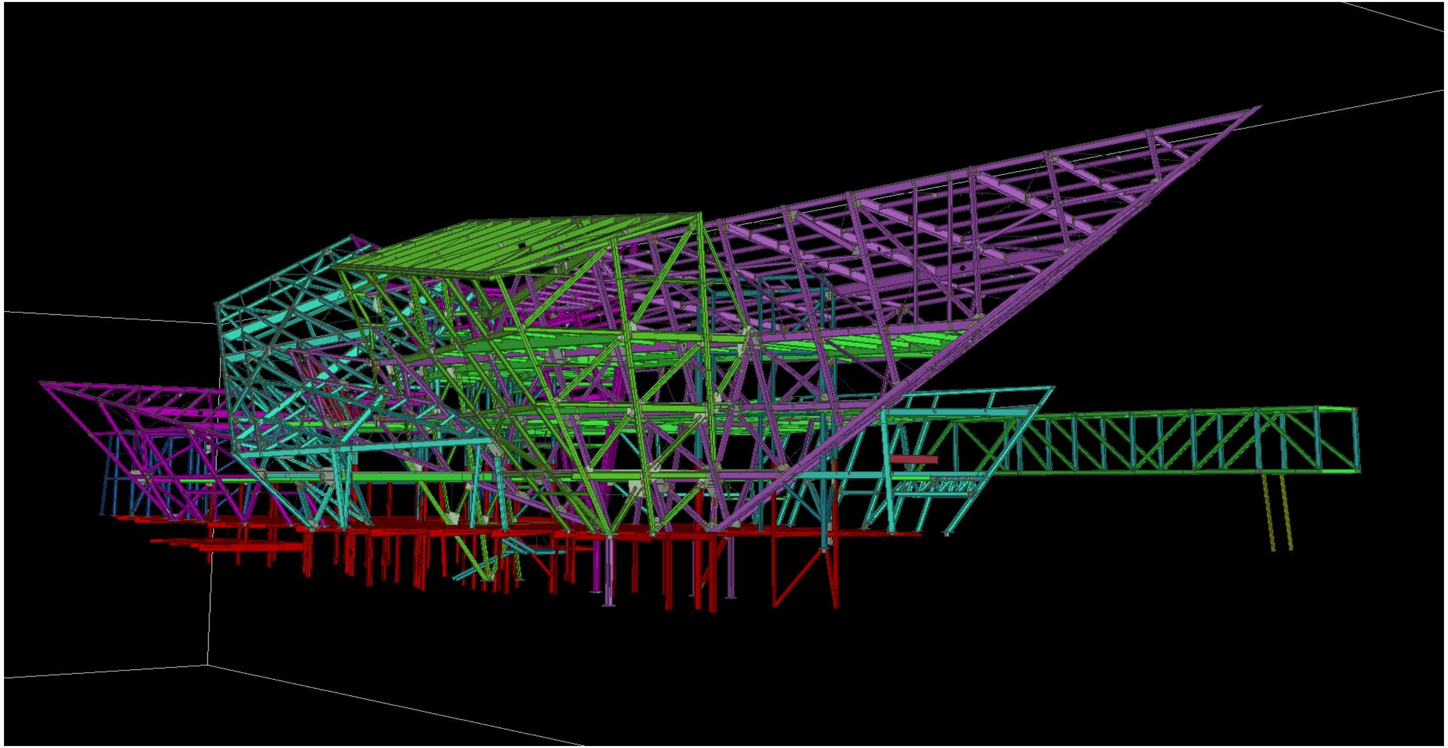
Object representation in BIM Technology



m/OmarSelim/

BIM Shop Drawing Model



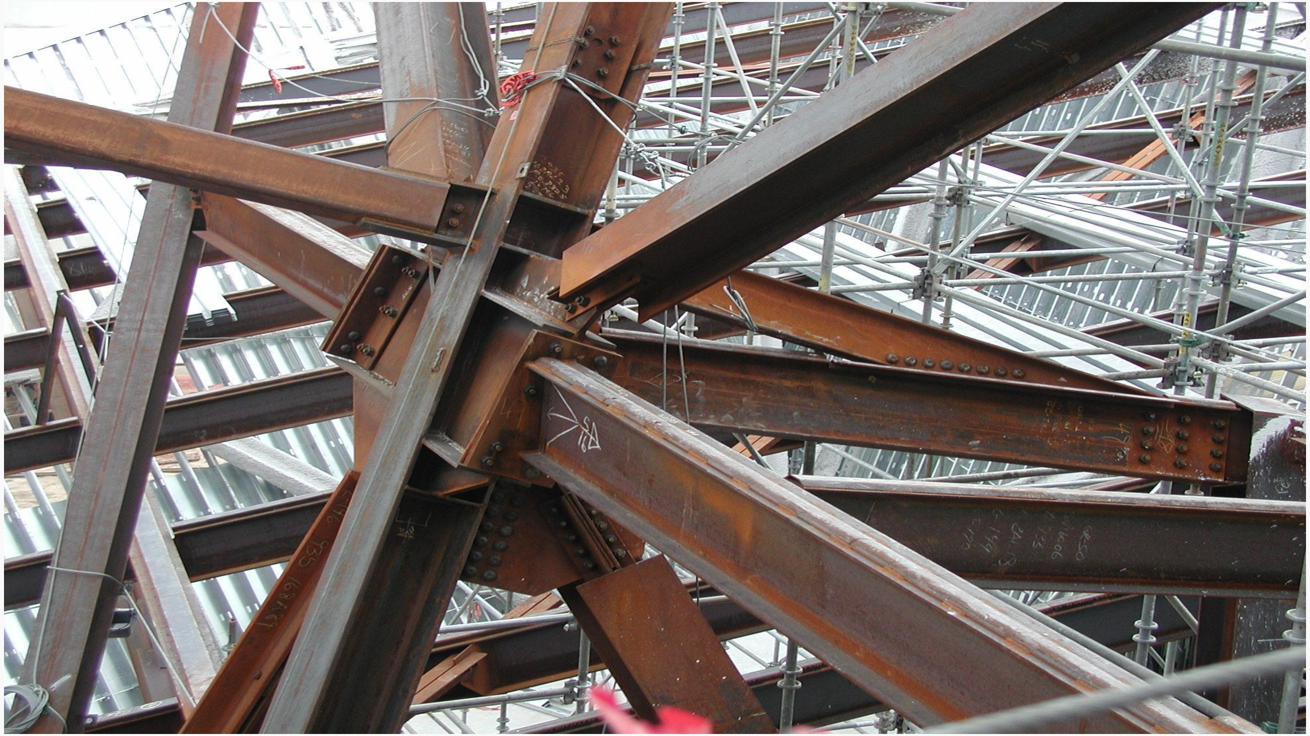


May 21, 2008

EcoBuild America
AEC-ST Science and Technology

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Steel as Actually Erected

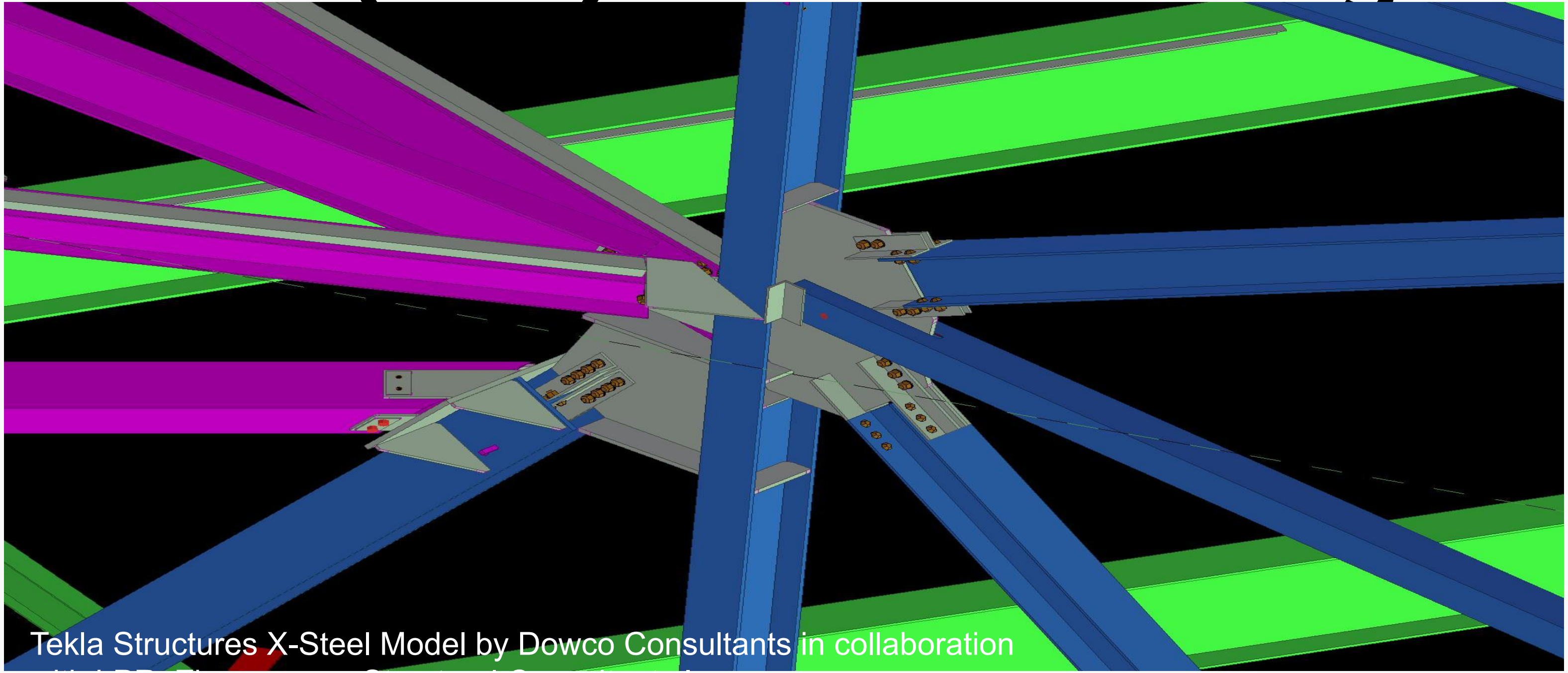


EcoBuild America
AEC-ST Science and Technology

May 21, 2008



3D (BIM) Steel Detailing



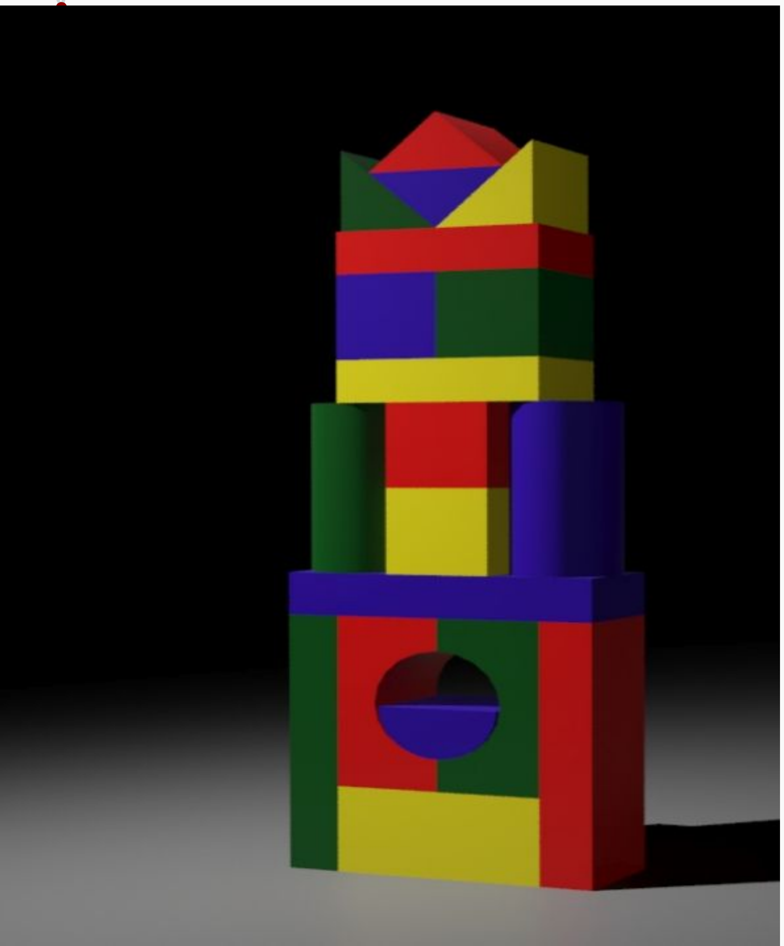
Tekla Structures X-Steel Model by Dowco Consultants in collaboration with LPR, Zimmerman, Structural Consultants Inc.

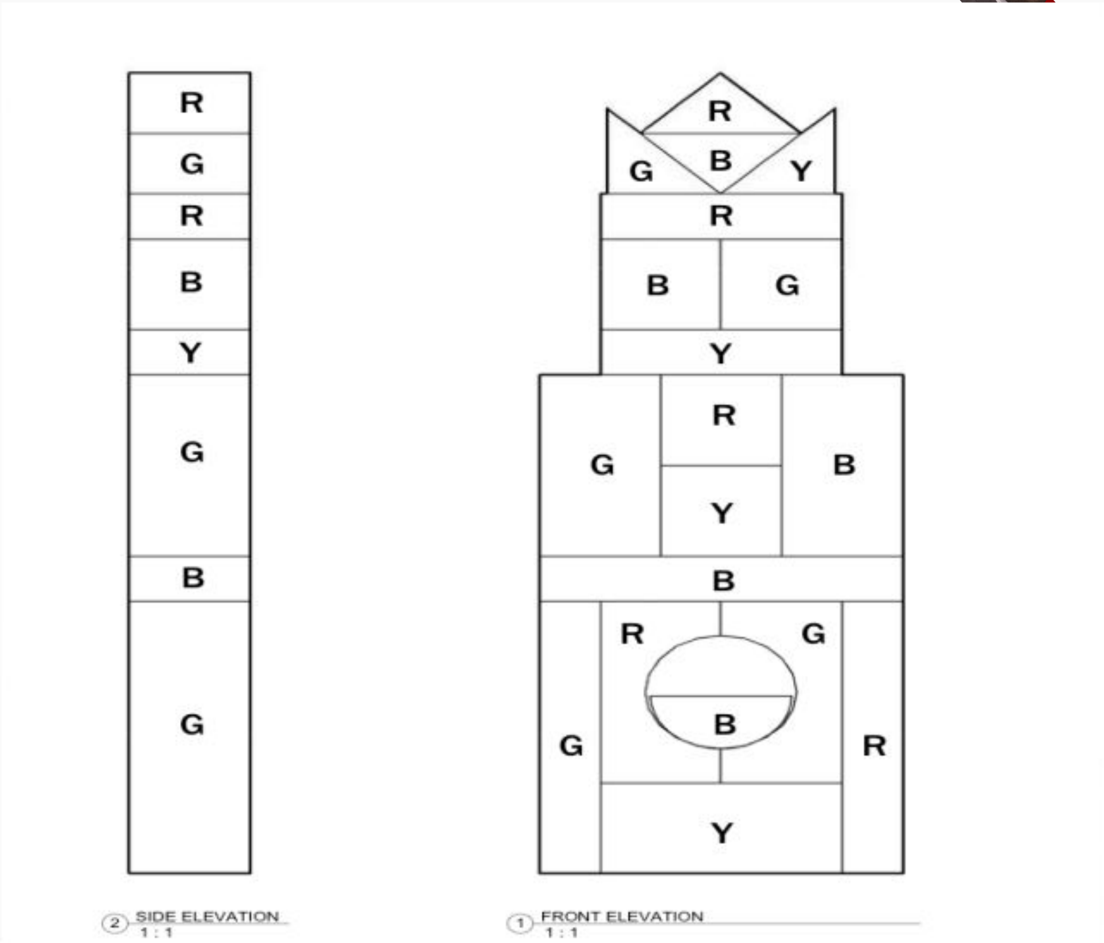
May 21, 2008

EcoBuild America

AEC-ST Science and Technology

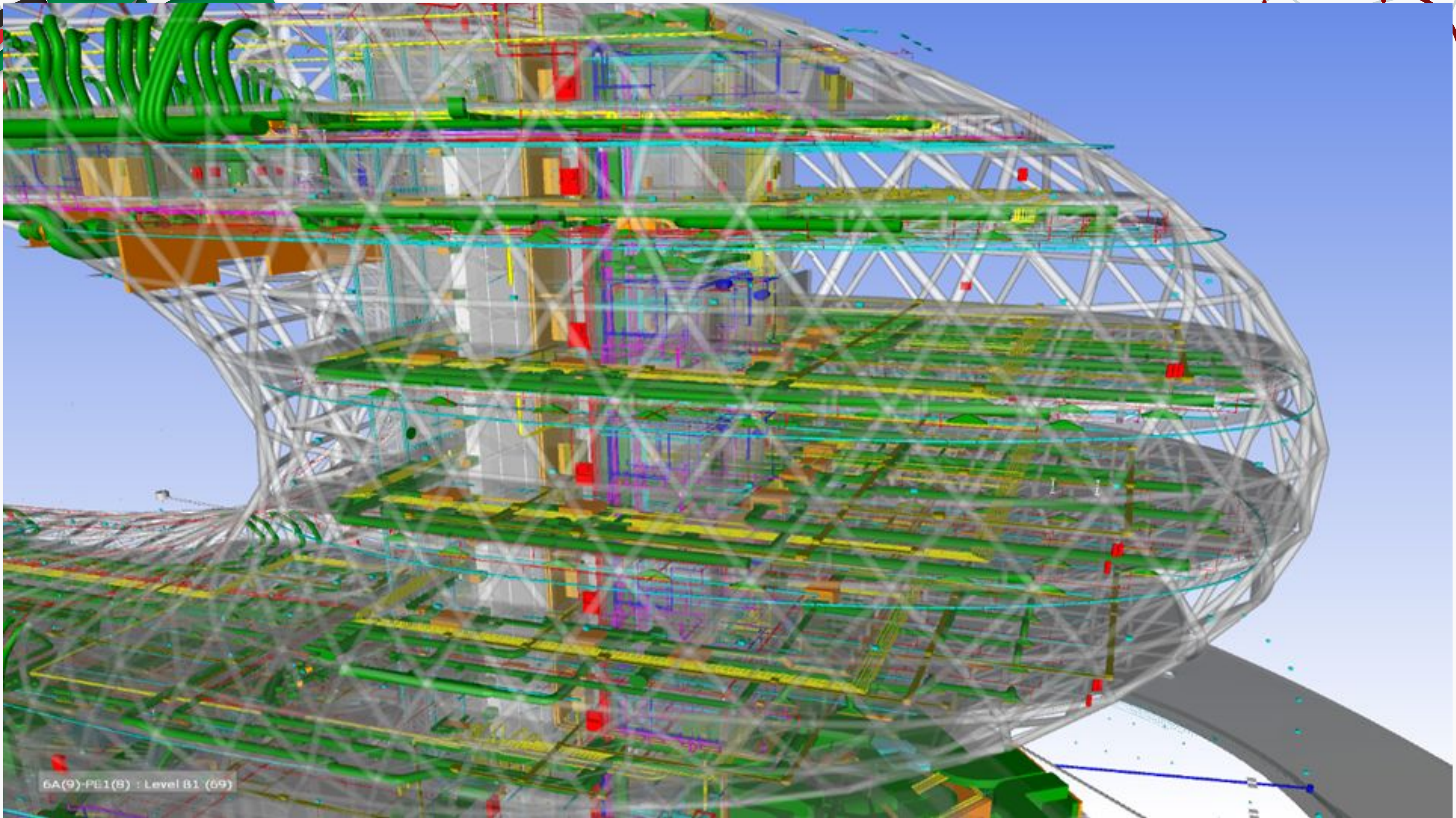
Principle #7 – "Use **visual controls** so no problems are hidden."

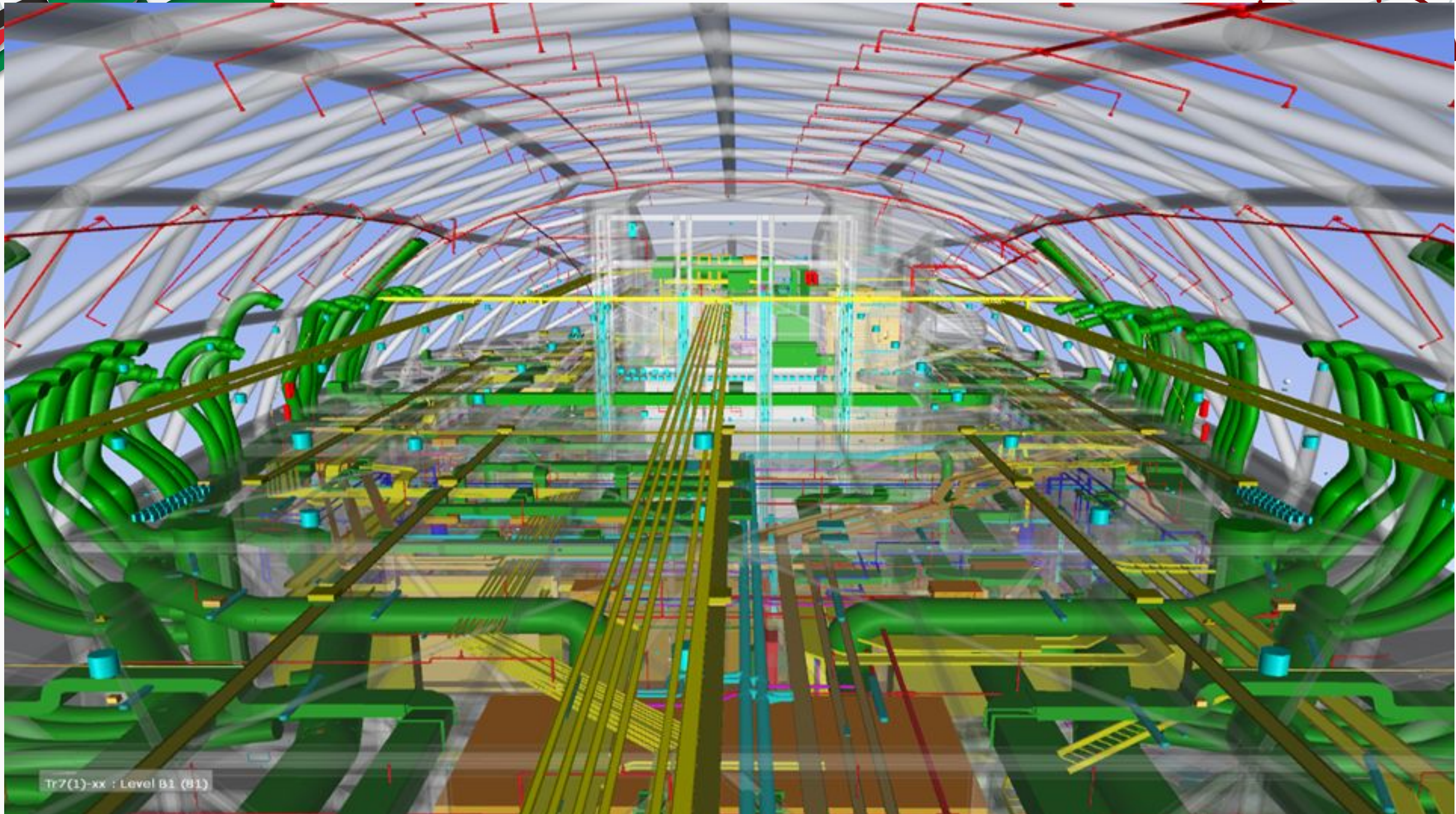




Principle #7 – “Use **visual controls** so no problems are hidden.”



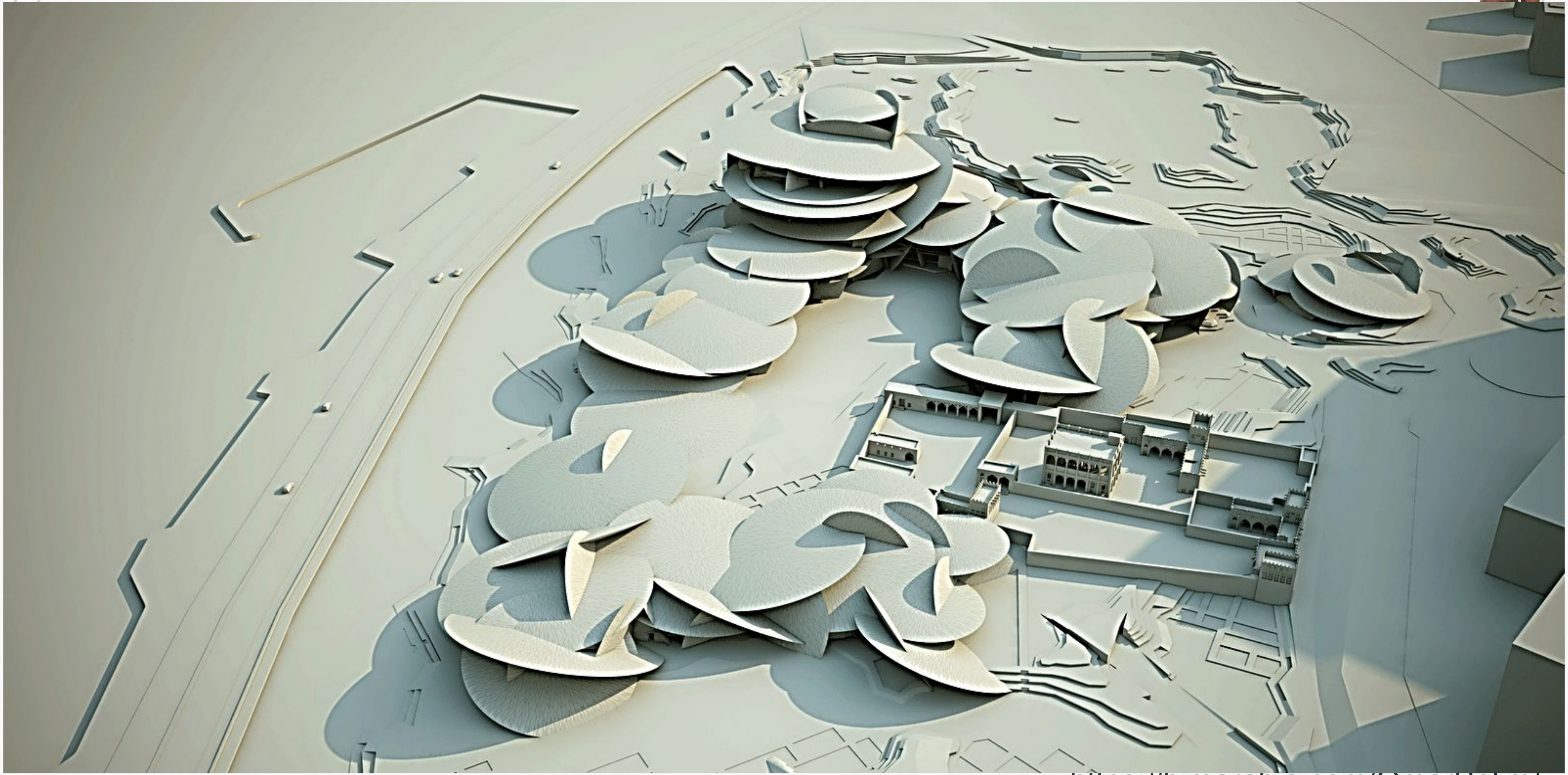



Tr7(1)-xx : Level B1 (B1)

Takes design to the next level.



Why BIM ,,Benefits of BIM,,



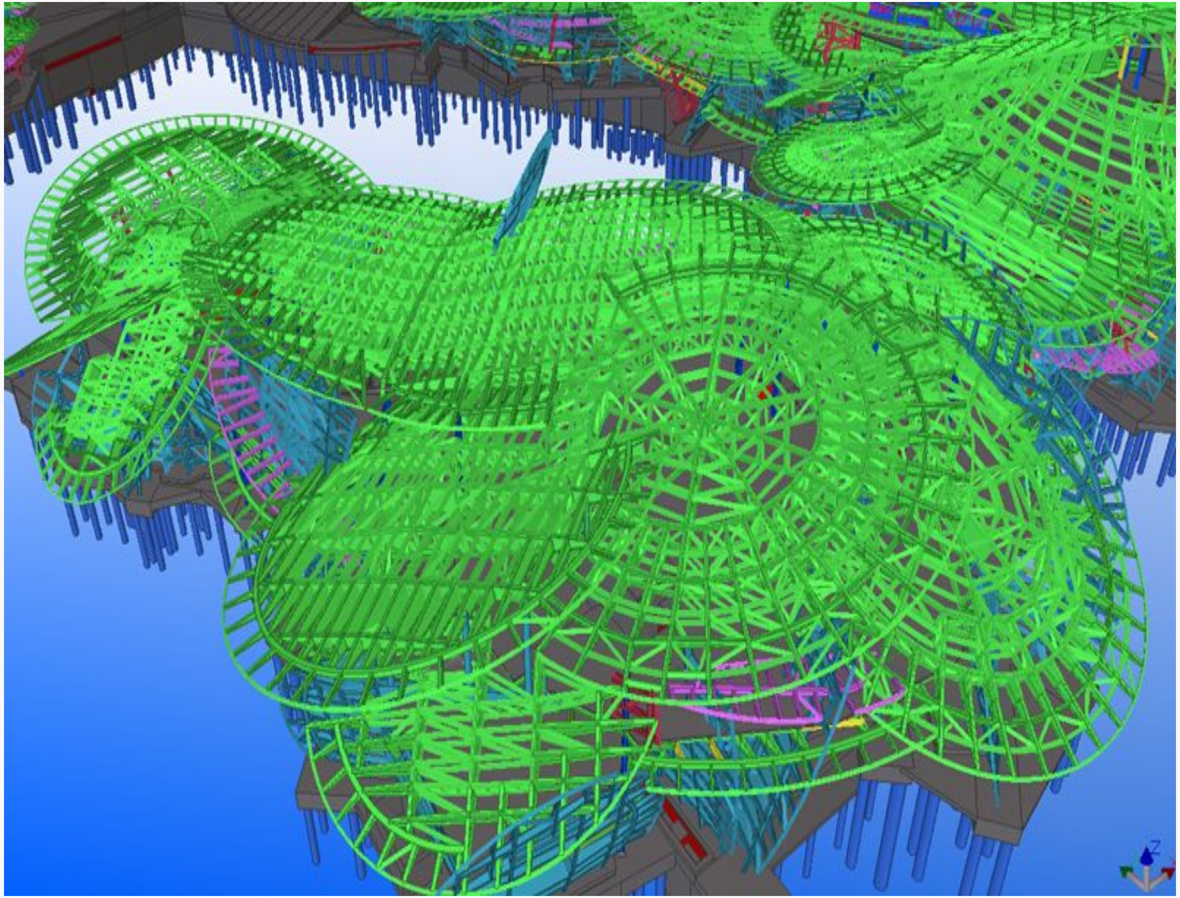
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Why BIM ,,Benefits of BIM,,



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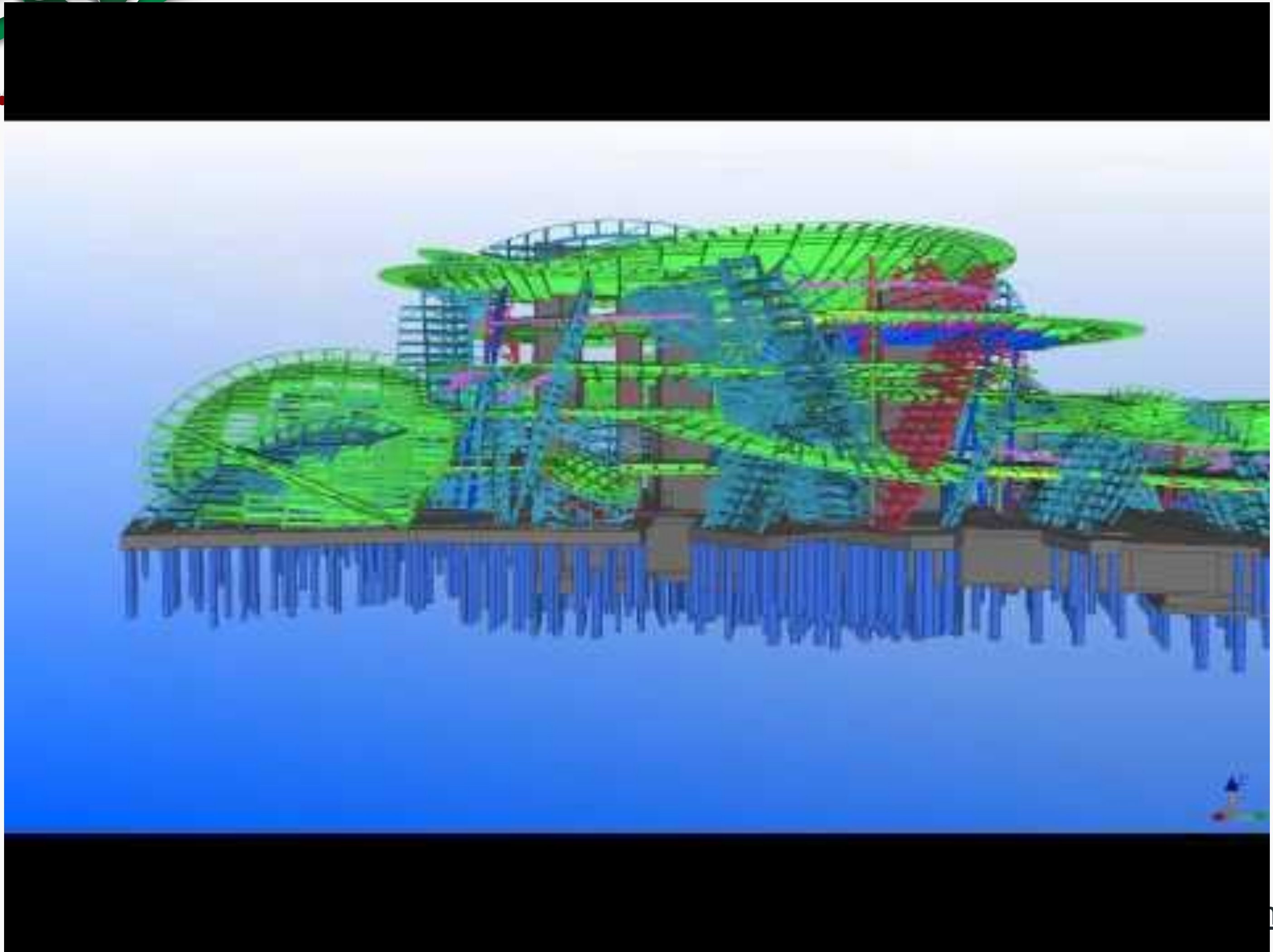
Why BIM ,,Benefits of BIM,,





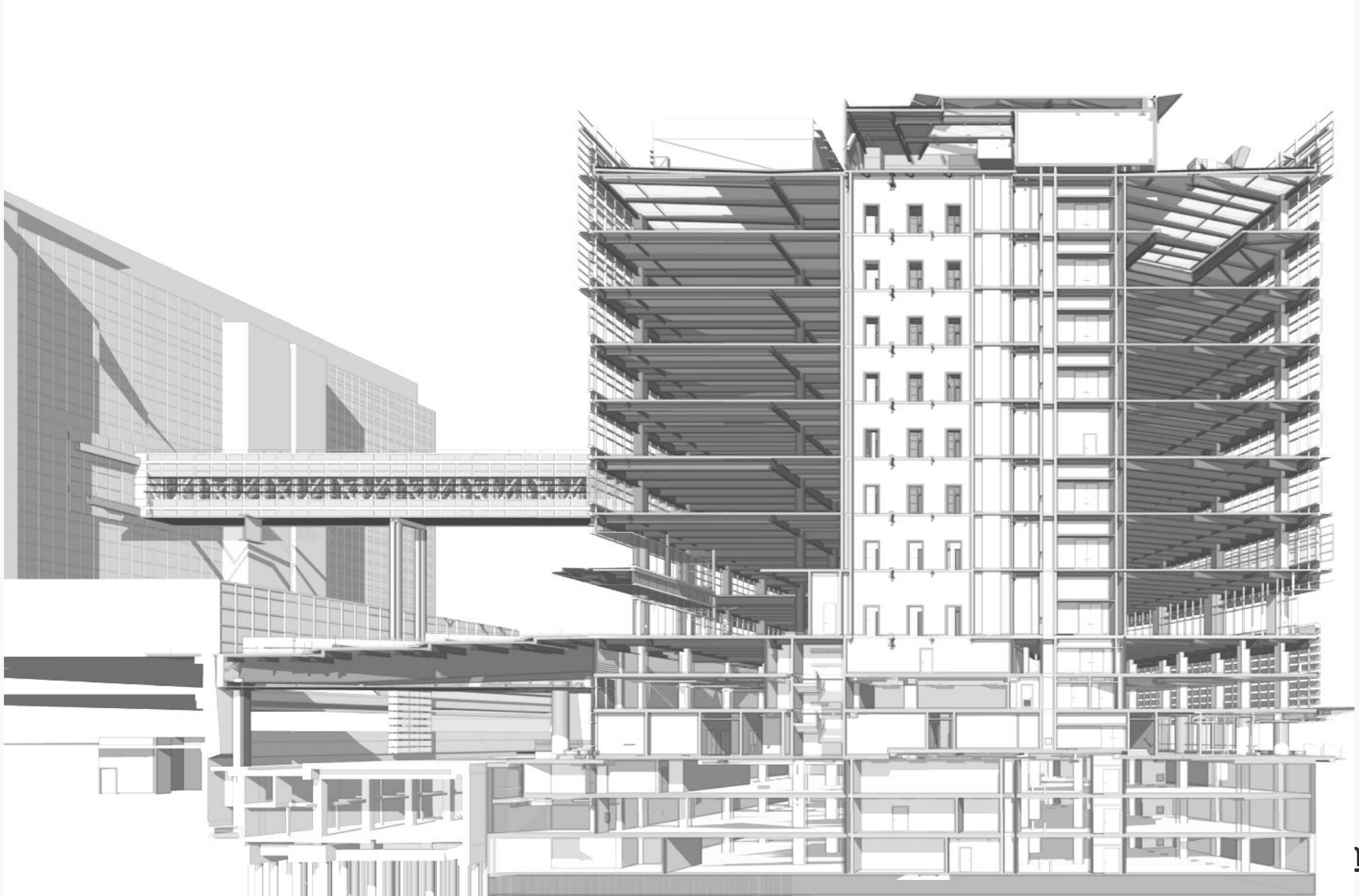


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3D Sections



- Quantities
- Dimensions
- Loading
- Calculations
- Specification

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Terminology – BIM



- Graphical Data
- Non-Graphical Data



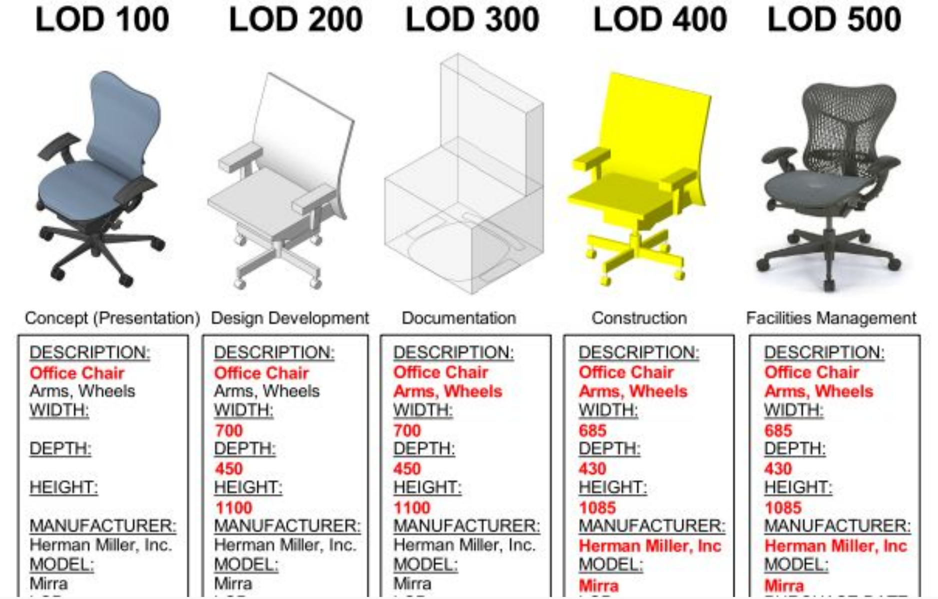
Graphical Data

Information Read from the graphical model :

- 3D Models

Rooms / spaces (their location).

- Departments (collections of rooms, e.g. Dental Department)
- Installations (sanitary, ventilation, electrics)
- Components (components of the installation, e.g. switchgear)
- Equipment (elements that need to be modelled, e.g. operating table, MRI, des



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Non-graphical Data

A list of information typically assigned to element attributes:

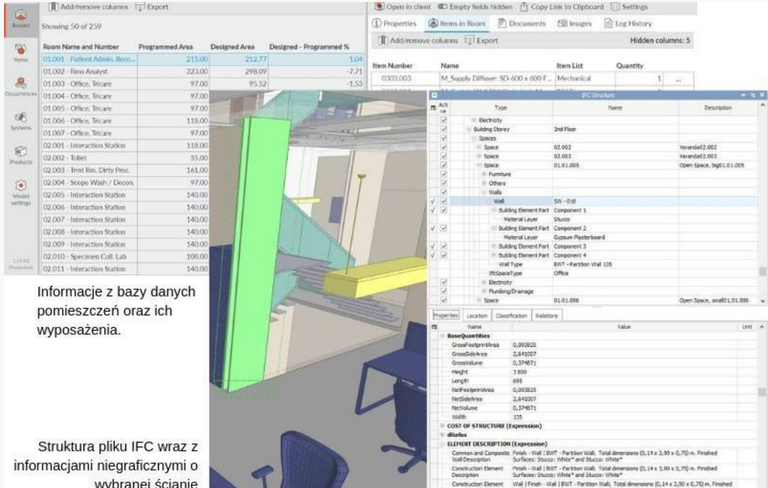
- Material information
- Physical properties (fire resistance, soundproofing class)
- Manufacturer
- Provider
- Expense
- Links to manufacturer documentation
- Durability (Facility Management phase, e.g. maintenance every 10 years)

Asset Data

Calculations

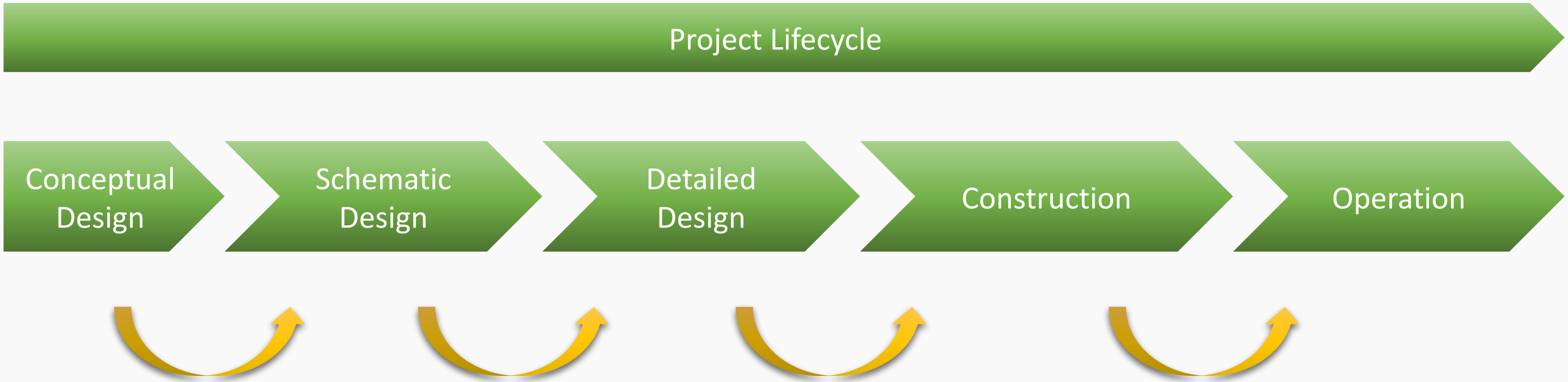
Room Data Sheets

Schedules





- BIM and Project Lifecycle



BIM Uses



Design

Modelling existing	Capturing Site	Site Analysis

Construction

Health and Safety	Logistics Planning	Clash detection

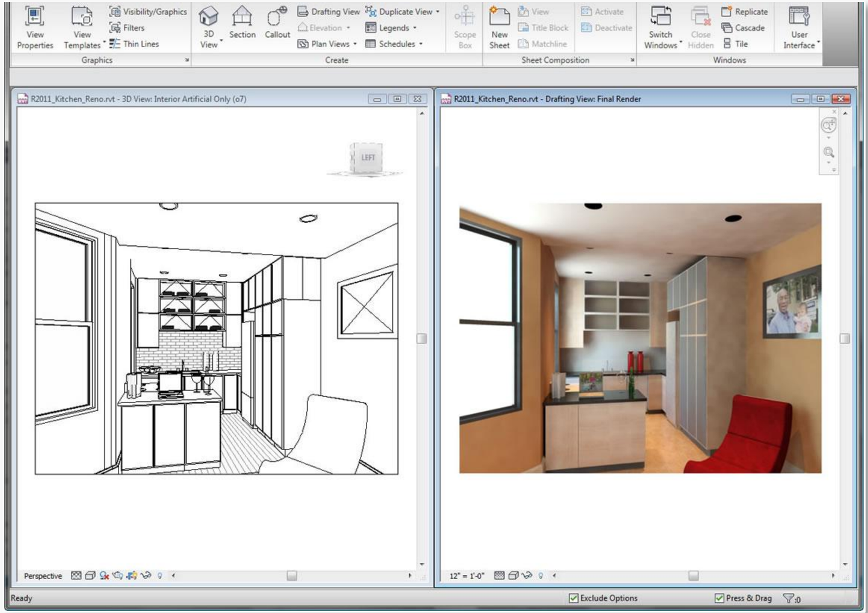
Operation

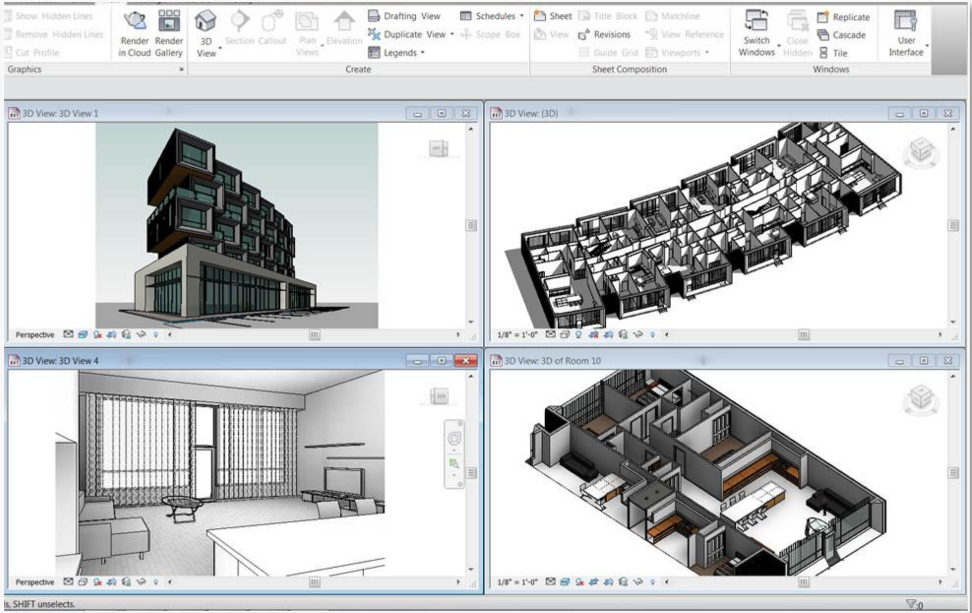
FM Integration	Creation of Asset Model	3D Spatial Handover



BIM Uses – Design and Engineering

Visualization





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BIM Uses – Design and Engineering

Virtual Reality



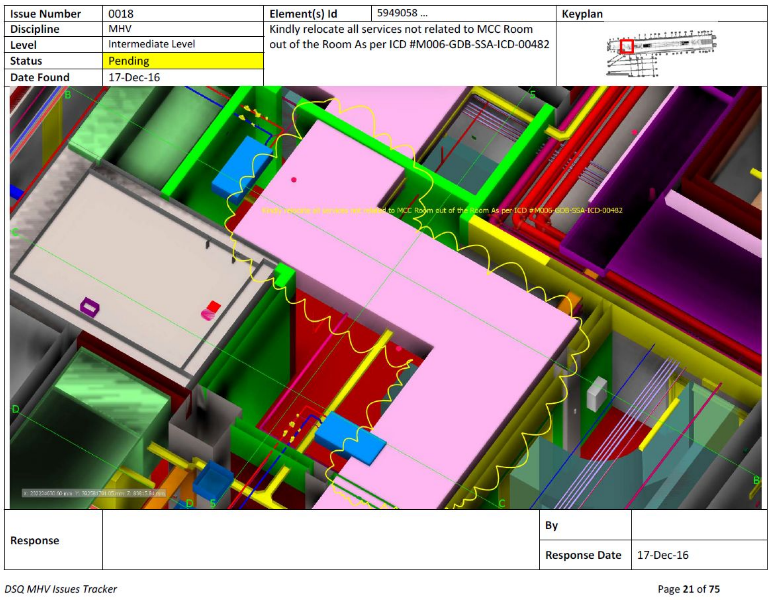


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BIM Uses – Design and Engineering

Design Reviews & Collaboration

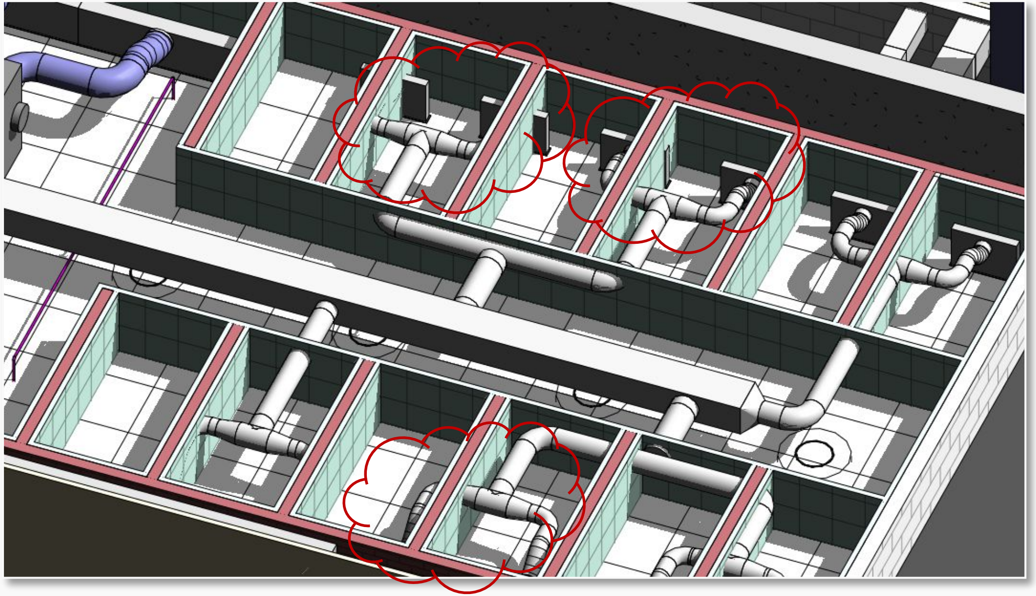




Issue Number	0018	Element(s) Id	5949058 ...	Keyplan
Discipline	MHV	Kindly relocate all services not related to MCC Room out of the Room As per ICD #M006-GDB-SSA-ICD-00482		
Level	Intermediate Level			
Status	Pending			
Date Found	17-Dec-16			

Response		By	
		Response Date	17-Dec-16

DSQ MHV Issues Tracker Page **21** of **75**

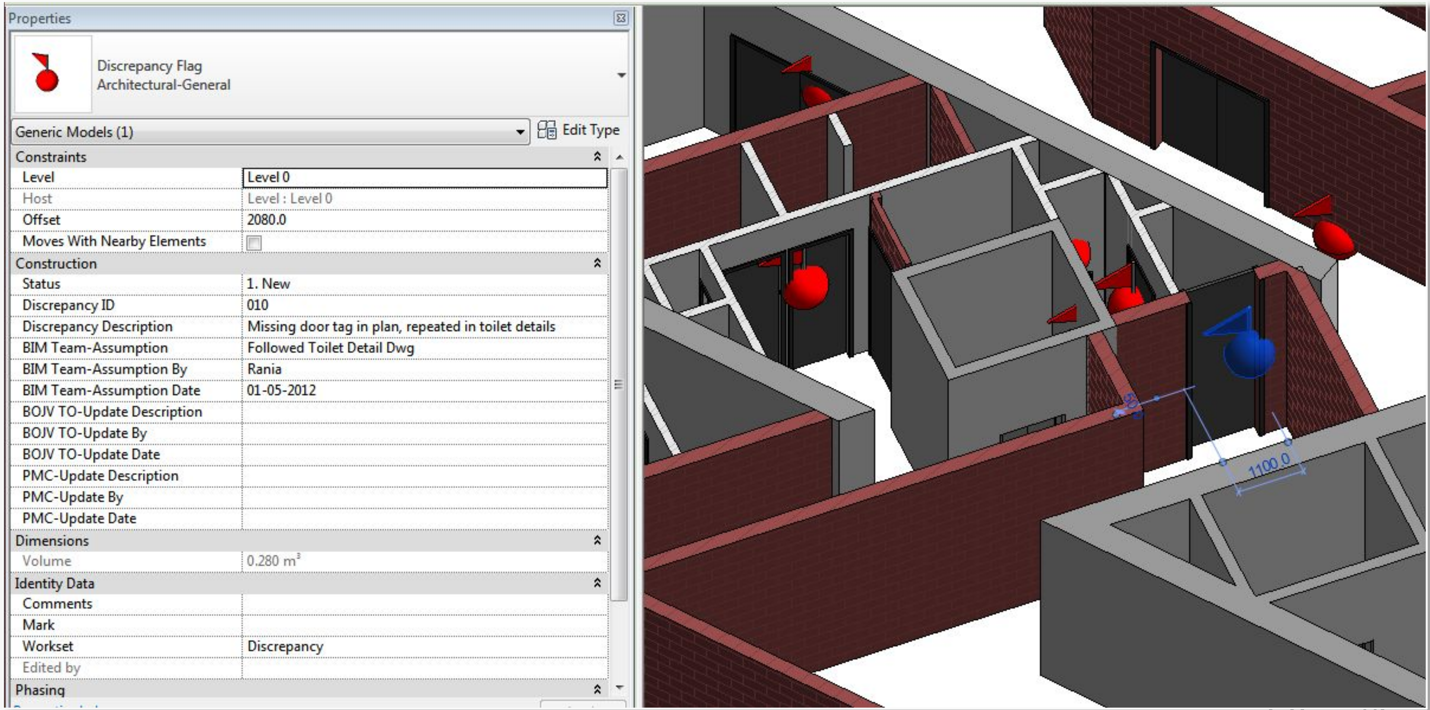


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BIM Uses – Design and Engineering

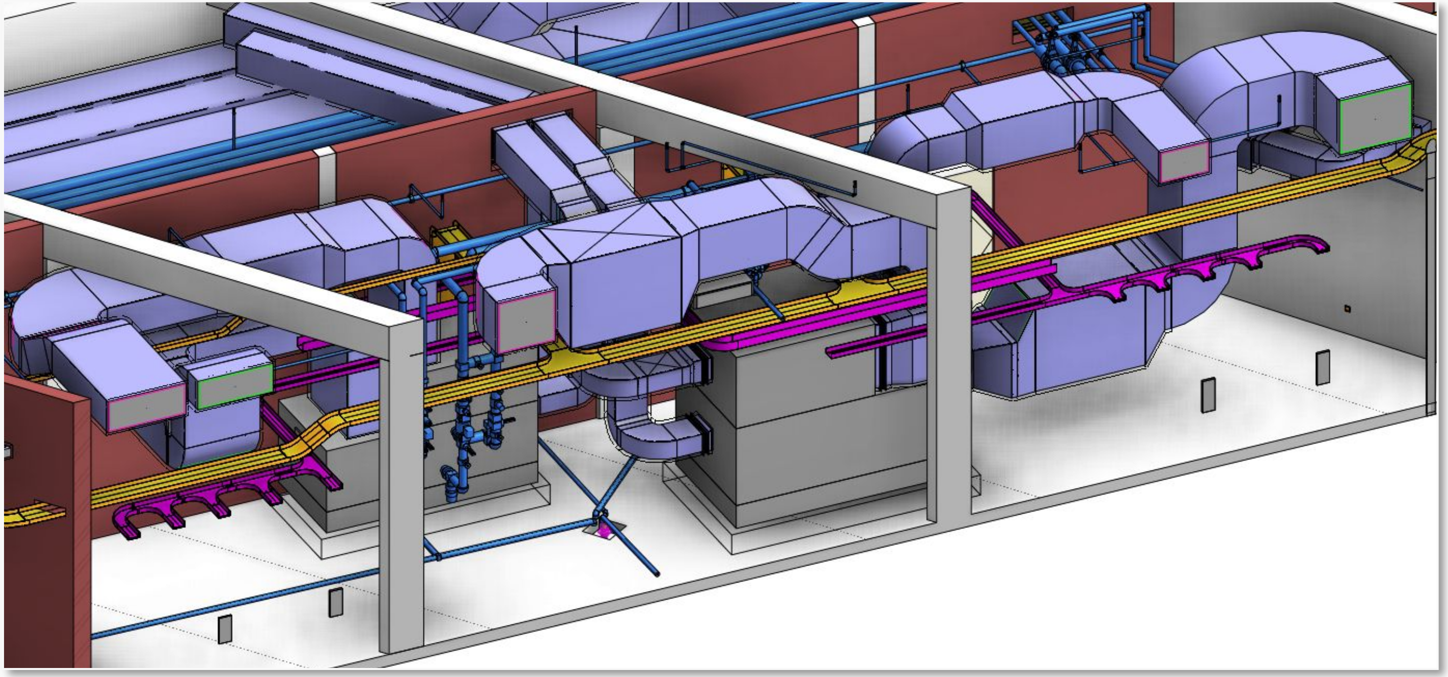


Coordination - Discrepancies Identification and Logging



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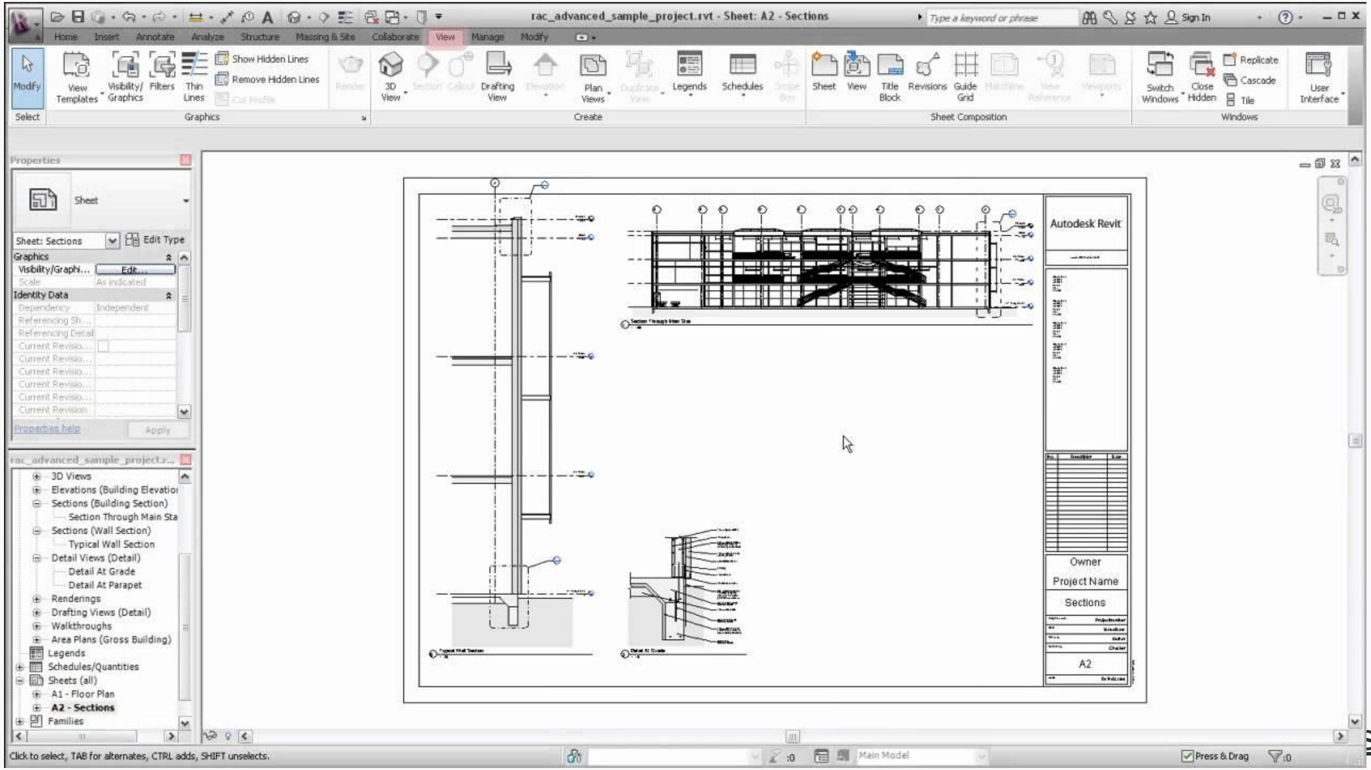
Coordination



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BIM Uses – Design and Engineering

- Drawings Production

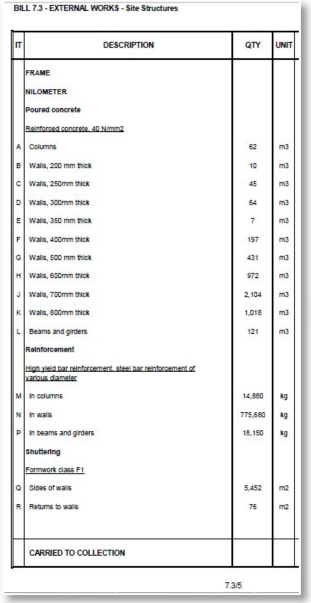


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- BOQ Extraction

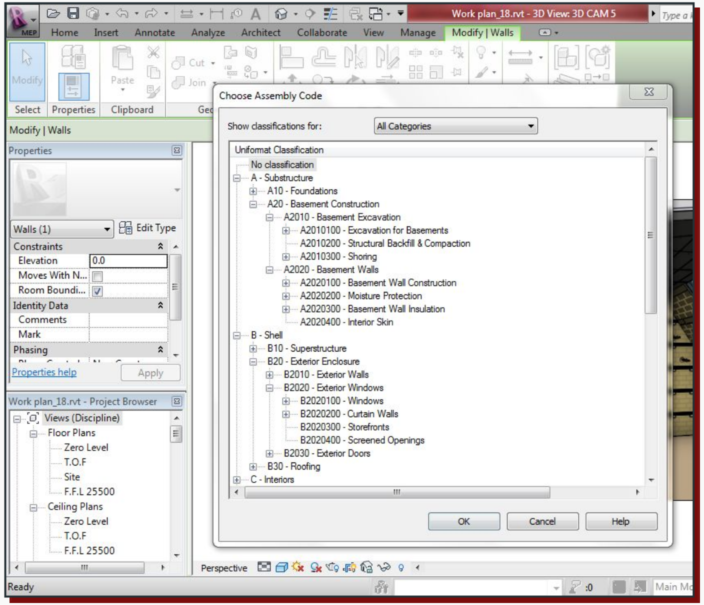
- Extracting Quantities from the BIM Model
- Developing BOQ in the BIM Model

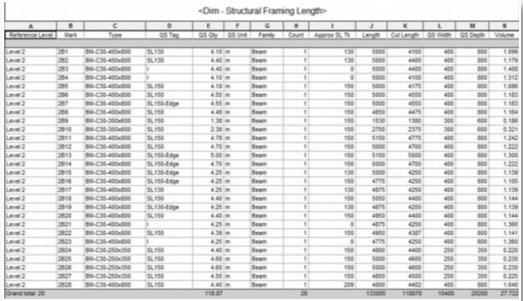


BILL 7.3 - EXTERNAL WORKS - Site Structures

IT	DESCRIPTION	QTY	UNIT
	FRAME		
	NILOMETER		
	Poured concrete		
	Reinforced concrete, 40 N/mm2		
A	Columns	62	m3
B	Walls, 200 mm thick	10	m3
C	Walls, 250mm thick	45	m3
D	Walls, 300mm thick	64	m3
E	Walls, 350 mm thick	7	m3
F	Walls, 400mm thick	197	m3
G	Walls, 500 mm thick	431	m3
H	Walls, 600mm thick	972	m3
J	Walls, 700mm thick	2,104	m3
K	Walls, 800mm thick	1,018	m3
L	Beams and girders	121	m3
	Reinforcement		
	High yield bar reinforcement, steel bar reinforcement of various diameter		
M	In columns	14,880	kg
N	In walls	775,680	kg
P	In beams and girders	18,150	kg
	Shuttering		
	Formwork class F1		
Q	Sides of walls	5,452	m2
R	Returns to walls	76	m2
	CARRIED TO COLLECTION		

7.3/5



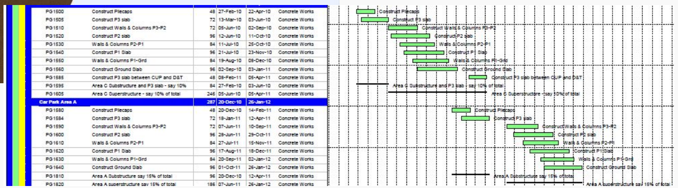




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Construction Planning







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لمحة عن نمذجة معلومات البناء

- أ١: نموذج رقمي
- أ٢: وثيقة النموذج
- أ٣: نمذجة متقدمة
- ب ١: العمل التعاوني كفريق
- ب ٢: التوافقية بين الابعاد الرباعية، الخماسية، السداسية والسباعية
- ب ٣: التوافقية بين الهندسة الإنشائية/الميكانيكية، الكهربائية والصحية
- ج١: تطوير عناصر نمذجة معلومات البناء (بيم). إدارة مكتبات البيم
- ج٢: دليل طراز نمذجة معلومات البناء
- ج٣: مهارات إدارة المعلومات

بيم أرابيا BIM ARABIA

مستويات الكفاءة

منسق بيم

تستطيع عمل نمذجة أساسية والعمل بشكل تعاوني

الرموز	الكفاءات
أ١، ب١	نموذج رقمي، عمل تعاوني

متخصص بيم

المستخدم يصمم، يحسب ويدير المشروع مستخدما برمجيات النمذجة لمستوى متقدم. المستخدم قادر على أخذ صورة شمولية لفريق التصميم

الدور	الرموز	الكفاءات
بيم للعمارة الداخلية	أ١، أ٢، ب١	نموذج رقمي، عمل تعاوني، نمذجة متقدمة
بيم للعمارة	أ١، أ٢، أ٣، ب١	نموذج رقمي، عمل تعاوني، نمذجة متقدمة، مستند النموذج
بيم للهندسة الميكانيكية للكهربائية، الصحية والإنشائية	أ١، ب١، ب٣	نموذج رقمي، عمل تعاوني، توافقية الميكانيكا، الكهربائية، الصحية والإنشائية
مدير مشروع بيم	أ١، ب١، ب٢	نموذج رقمي، عمل تعاوني، توافقية بين البعد الرابع، الخامس، السادس والسابع
مدير إنشاء بيم	أ١، ب١، ب٢، ب٣	نموذج رقمي، عمل تعاوني، توافقية بين البعد الرابع، الخامس، السادس والسابع، توافقية الميكانيكا، الكهربائية، الصحية والإنشائية
مصمم بيم للمناخ الحيوي	أ١، ب١، ب٢	نموذج رقمي، عمل تعاوني، توافقية بين البعد الرابع، الخامس، السادس والسابع
مدير منشأة بيم	أ١، ب١	نموذج رقمي، عمل تعاوني، إدراة الأصول

محترف بيم

المستخدم سوف يتعلم كيفية إدارة أنظمة البيم المتقدمة والتوافق بينهم

المستخدم لديه مهارات إدارة تكنولوجيا المعلومات ويدير ويطور مكتبات العناصر

الرموز	الكفاءات
أ١، أ٢، أ٣، ب١، ب٢، ب٣، ج١، ج٢، ج٣	نموذج رقمي، مستند النموذج، نمذجة متقدمة، فريق عمل تعاوني، توافقية بين البعد الرابع، الخامس، السادس والسابع، توافقية الميكانيكا، الكهربائية، الصحية والإنشائية، مطور عناصر البيم إدارة مكتبات عناصر البيم، دليل طراز البيم، إدارة تكنولوجيا المعلومات

مدير بيم خبير

محترف البيم لديه المهارات اللازمة لإدارة وتطبيق أنظمة البيم على محطة العمل

الرموز	الكفاءات
أ١، أ٢، أ٣، ب١، ب٢، ب٣، ج١، ج٢، ج٣	نموذج رقمي، مستند النموذج، نمذجة متقدمة، فريق عمل تعاوني، توافقية بين البعد الرابع، الخامس، السادس والسابع، توافقية الميكانيكا، الكهربائية، الصحية والإنشائية، مطور عناصر البيم إدارة مكتبات عناصر البيم، دليل طراز البيم، إدارة تكنولوجيا المعلومات، تطبيق أنظمة البيم، إدارة أنظمة البيم

منسق بيم | أخصائي بيم | محترف بيم | مدير بيم خبير



	Strategic						Management				Production	
Role	Corporate Objectives	Research	Process + Workflow	Standards	Implementation	Training	Execution Plan	Model Audit	Model Co-ordination	Content Creation	Modelling	Drawings Production
BIM Manager	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N
Coordinator	N	N	N	N	N	Y	Y	Y	Y	Y	Y	N
Modeller	N	N	N	N	N	N	N	N	N	Y	Y	Y

rSelim/



Project BIM Manager

- BIM Execution Plan
- BIM Goal and Uses
- Responsibility Matrix
- BIM Deliverables
- Delivery Schedules
- BIM Modelling
- Quality Control
- BIM Coordination



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BIM Manager:

1. Acting as the intermediary between designers, clients and architects so that projects remain efficient and effective.
2. Managing drawing production.
3. Providing training or upskilling team members in specific software programs.
4. Ensuring staff have access to the tools and equipment they need.
5. Overseeing the purchase of the workstations so that hardware is sufficient and effective for the range of programs installed on the system.
6. Keeping up-to-date with advancements in building technology.
7. Leading meetings to identify project tasks and resolve issues.
8. Overseeing BIM design budgets, project wise.



BIM Coordinator for Consultant

- Create BIM Design Models and Documentation
- Define discipline-specific BIM uses including analysis
- Coordinate between BIM modellers, design consultants and cost consultant
- Coordinate with contractor and subcontractors
- Ensure Modelling Quality Control



BIM Coordinator for Contractor

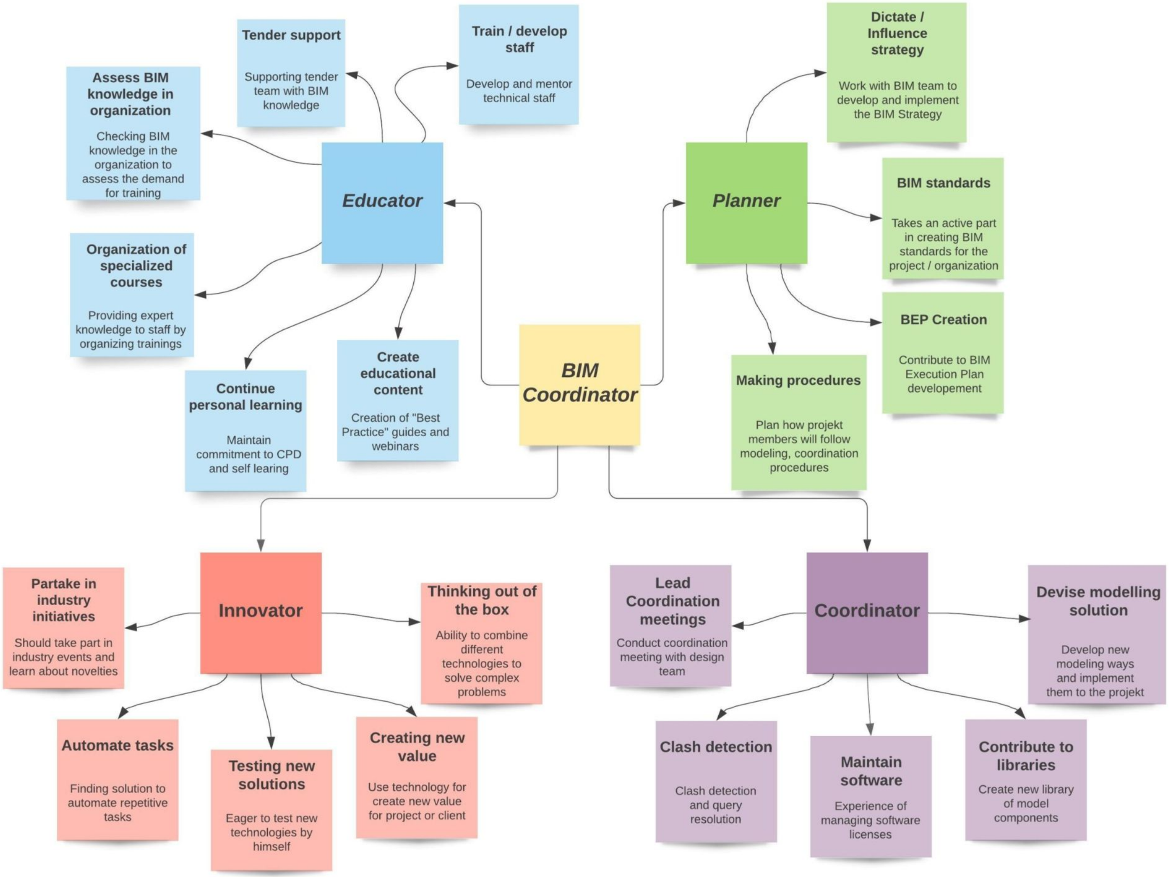
- Coordinate with design consultants and subcontractors
- Study tender documents
- Review Design Models and Fabrication Models and Drawings
- Use BIM for coordination, sequencing, constructability and cost studies, and field use
- Create construction and as built models
- Ensure Modelling Quality Control



BIM Coordinator:

1. Ensure all BIM Models are as per Project Standards / BIM Execution plan.
2. Conduct clash detection and visual walkthroughs using Navisworks Manage.
3. Participating in weekly coordination meetings with project team members. (Project Managers, BIM Manager, Design Engineers, BIM Modelers)
4. Audit the BIM Models as per quality standard procedures.
5. Responsible for creating Project Templates and ensure that all BIM Modelers aware and using the same.
6. Continuous communication to BIM Family creation team, whether they are getting enough data for family creations.
7. Validating the clashes and ensuring that BIM Modelers are not repeating the same clashes.

roles and responsibilities of BIM Coordinator

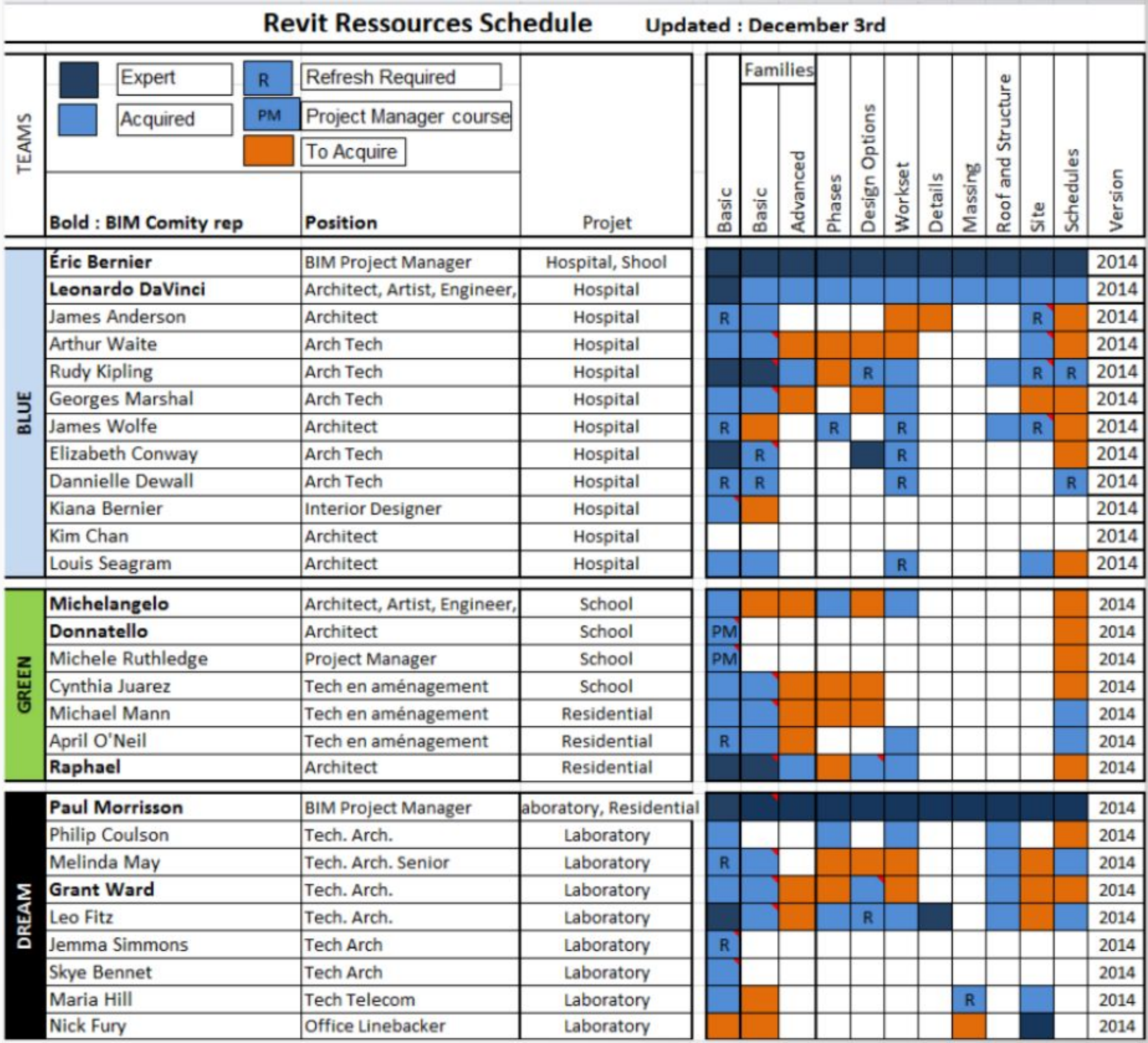




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Whitch tools?

Revit resource Matrix



Revit Ressources Schedule Updated : December 3rd

	Legend		
	Expert	R	Refresh Required
	Acquired	PM	Project Manager course
			To Acquire

TEAMS	Bold : BIM Comity rep	Position	Projet	Basic	Families: Basic	Families: Advanced	Phases	Design Options	Workset	Details	Massing	Roof and Structure	Site	Schedules	Version
BLUE	**Éric Bernier**	BIM Project Manager	Hospital, Shool												2014
BLUE	**Leonardo DaVinci**	Architect, Artist, Engineer,	Hospital												2014
BLUE	James Anderson	Architect	Hospital	R									R		2014
BLUE	Arthur Waite	Arch Tech	Hospital												2014
BLUE	Rudy Kipling	Arch Tech	Hospital					R					R	R	2014
BLUE	Georges Marshal	Arch Tech	Hospital												2014
BLUE	James Wolfe	Architect	Hospital	R			R		R				R		2014
BLUE	Elizabeth Conway	Arch Tech	Hospital		R				R						2014
BLUE	Dannielle Dewall	Arch Tech	Hospital	R	R				R					R	2014
BLUE	Kiana Bernier	Interior Designer	Hospital												2014
BLUE	Kim Chan	Architect	Hospital												2014
BLUE	Louis Seagram	Architect	Hospital						R						2014
GREEN	**Michelangelo**	Architect, Artist, Engineer,	School												2014
GREEN	**Donnatello**	Architect	School	PM											2014
GREEN	Michele Ruthledge	Project Manager	School	PM											2014
GREEN	Cynthia Juarez	Tech en aménagement	School												2014
GREEN	Michael Mann	Tech en aménagement	Residential												2014
GREEN	April O'Neil	Tech en aménagement	Residential	R											2014
GREEN	**Raphael**	Architect	Residential												2014
DREAM	**Paul Morrisson**	BIM Project Manager	aboratory, Residential												2014
DREAM	Philip Coulson	Tech. Arch.	Laboratory												2014
DREAM	Melinda May	Tech. Arch. Senior	Laboratory	R											2014
DREAM	**Grant Ward**	Tech. Arch.	Laboratory												2014
DREAM	Leo Fitz	Tech. Arch.	Laboratory					R							2014
DREAM	Jemma Simmons	Tech Arch	Laboratory	R											2014
DREAM	Skye Bennet	Tech Arch	Laboratory												2014
DREAM	Maria Hill	Tech Telecom	Laboratory								R				2014
DREAM	Nick Fury	Office Linebacker	Laboratory												2014

Model review matrix

MODEL MANA

DECEME

PM	Project	Model	MODEL SIZE – Current size: Size (MB)	Current size: Comparison previous date	Size after cleaning: Size (MB)	Size after cleaning: Comparison after cleaning	QUALITY CONTROL – Warnings: Warnings	Warnings: Comparison previous date	Elements: Number of Elements	Elements: Comparison previous date	Purge: Number of Elements to purge	Purge: Comparison previous date
Eric Bernier	Hospital	01234_Arch_Block_A	215		185	14%	413		28345		470	
		01234_Arch_Block_B	321		281	12%	401		24324		645	
		01234_Arch_Shell	75		69	8%	93		15666		151	
		01234_Site	10		10	0%	5		655		12	
	School	10154 School_Shell	60		58	3%	28		16767		200	
		10154 School_Interior	175		155	11%	46		28282		315	
		10154 School_Site	15		14	7%	46		545		15	
Paul Morrison	Laboratory	04321_Arch_RD	165		155	6%	413		33434		355	
		04321_Arch_Genome	185		135	27%	401		31876		253	
		04321_Structure	95		92		401		28787		122	
		01234_Arch_Shell	78		69	12%	93		19876		57	
		01234_Site	12		10	17%	5		456		18	
	10266	10154 House_Shell	79		62	22%	28		9876		318	
		10154 House_Interior	82		80	2%	46		22876		333	
		10154 House_Site	17		15	12%	46		323		8	

Model issue matrix

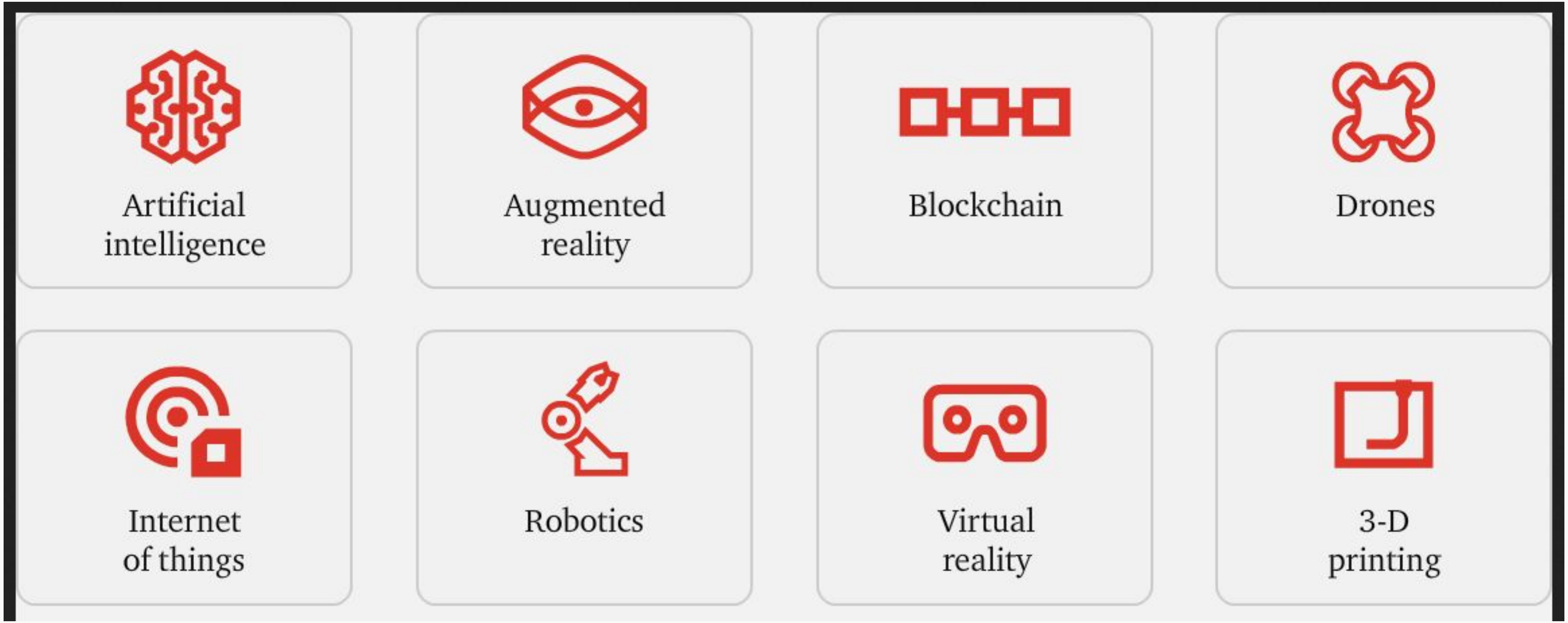
No	Date	Model	Subject	Category	Priority	Severity	Question or problem	By	Answer or solution
Ex	2013-12-03	Shell	Ex:Walls, Rooms, Materials	Question or Problem	High, Middle, Low	Critical, Major, Minor	Ask a question or expose a problem here	Querrant	Answer here
AU-001	2013-12-03	Interior	Rooms	Problem	High	Major	Room # NCC-1701E is missing in my schedule even if I can see it on my plan	William R.	Possible reasons why it is missing : Have you checked the F

View templates & filter

View Templates Names	Number of view using it	Wall Accessories	Elevator	Faraday partitions	Working - Section	Building Section	Sanitary	Elect & Telecom	Temporary for Coordination	Elevation - Exterior	Elecation - Interior	Elevation - all but Corridor	Faraday Windows	Wall protections	Radiant heating panels	Electrical panels	Ceiling height - 2440mm	Plumbing	Gray hidden lines	Electrical outlets	Wall guards	Fire protection 0H to 3H	Electrical symbols	Ventilation	TOTAL
Sections and Elevations																									
Section 1-100	16																								2
Section 1-50	25																								3
Sections - Stairs	13																								3
Elevations - General	3																								0
Ceilings																									
Ceilings 1-50	135																								6
Ceilings 1-100	135																								6
Ceilings Coordination	16																								3
PLANS																									
General 1-50	135																								0
General 1-100	135																								5
Corrdination 1-100	135																								2
F1_F2_F3	16																								3
Zoom Bedrooms 1-50	16																								0
Zoom Conference 1-50	3																								12
Plans Finishes 1-50	16																								3
Plans Furniture 1-200_Stat_NivD	16																								3
Plans Fire Protection	16																								4
Plans STC	16																								1
Working Plan - Bedrooms	3																								4
Working Plan - Stairs	7																								2
Working Plans - 1-50	9																								2
Working Plan Fire Protection	9																								1
ZZ_Worksets	9																								2
TOTAL		2	1	2	9	2	1	5	4	1	5	1	1	2	1	12	1	3	3	0	5	1	1	4	67

The Essential Eight technologies that disrupting the construction industry

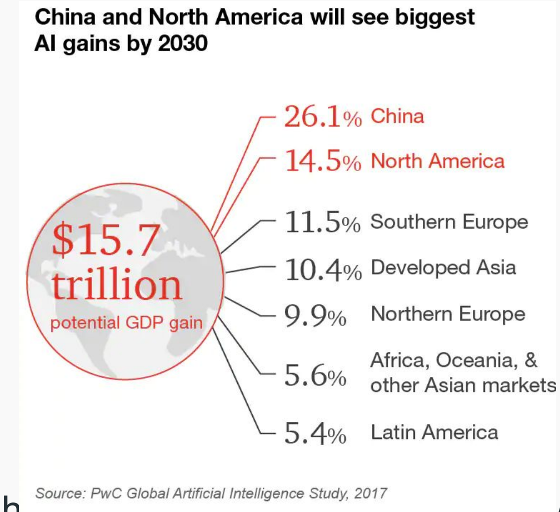




ht com/OmarSelim/

Robotics, AI, and the Internet of Things

- can **reduce building costs** by up to 20 percent.
- Engineers can do **virtual reality goggles** and send mini-robots into buildings under construction. These robots use cameras to track the work as it progresses.
- AI is being used to **plan the routing** of electrical and plumbing systems in modern buildings.
- Companies are using AI to develop **safety** systems for worksites.
- AI is being used to track the **real-time interactions** of workers, machinery, and objects on the site and **alert supervisors** of potential safety issues, construction errors, and productivity issues.
- AI will alter business models in the construction industry, reduce expensive errors, reduce worksite injuries, and make building operations more efficient.
- Leaders at construction companies should **prioritize investment** based on areas where AI can have the most impact on their company's unique **needs**.






ARTIFICIAL
INTELLIGENCE

Artificial intelligence

Software algorithms capable of performing tasks that normally require human intelligence (thought processes and senses) and **automating complex decision-making** tasks .

for example (speech recognition, decision-making and language translation, problem-solving, pattern recognition).

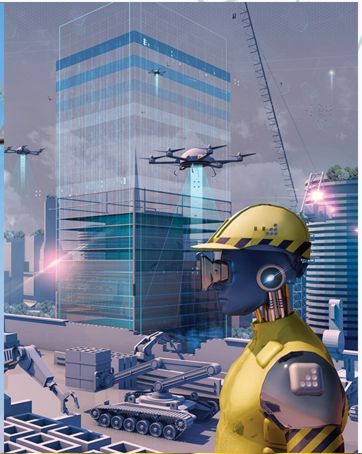
(AI) is **not** a monolithic technology.
AI is an umbrella concept that covers subfields such as **machine learning**, can **teach itself** to learn, **understand, reason, plan, and act** when exposed to new data.

— for example, **hospitals** using a **library** of scanned images to **quickly and accurately** detect and diagnose cancer;

insurance companies digitally and automatically recognizing and assessing car damage;

or **security companies** trading clunky typed passwords for **voice recognition**.







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10 Examples of AI in Construction

1. Prevent cost overruns
2. AI for Better Design of Buildings Through Generative Design (BIM)
3. Risk Mitigation
4. Project Planning
5. AI Will Make Jobsites More Productive
6. AI for Construction Safety
7. AI Will Address Labor Shortages
8. Off-site Construction
9. AI and Big Data in Construction
10. AI for Post-Construction

Source :- https://constructible.trimble.com/construction-industry/the-benefits-of-ai-in-construction


THE INTERNET OF THINGS
Wi Fi

Internet of things (IoT)



A term to describe a network of **objects – devices, vehicles**, etc.
– **embedded with**
sensors,
software,
network connectivity
and **compute** capability,

that can **collect and exchange data** over the Internet.
usually **without** human intervention

IoT **augments** people, places, processes, and products
with **sensors** to capture and analyze information across a value chain, advancing the goals of the City.

According to McKinsey & Company, the Internet of Things could add up to $11.1 trillion to the global economy by 2025.

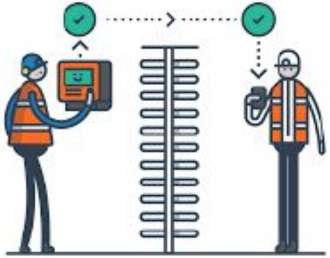
73% of companies are making IoT investments today;

47% say it will be the most important tech for cutting costs.

Source: PwC 2017 Global Digital IQ Survey



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MSITE personnel tracking and verification



Environmental impact sensors/apps – noise, air quality



Activity sensors – concrete etc.



AI and machine learning.



Asset in use sensors (asphalt, footfall)



Smart tech (lighting, BMS)



Space utilisation

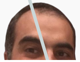


Mapping

Augmented reality

Augmented reality (AR): the addition of information or visuals to the physical world, via graphics and/or audio overlay,

to improve the **user experience**.
This real world “augmentation” is achieved through devices that render and display information.





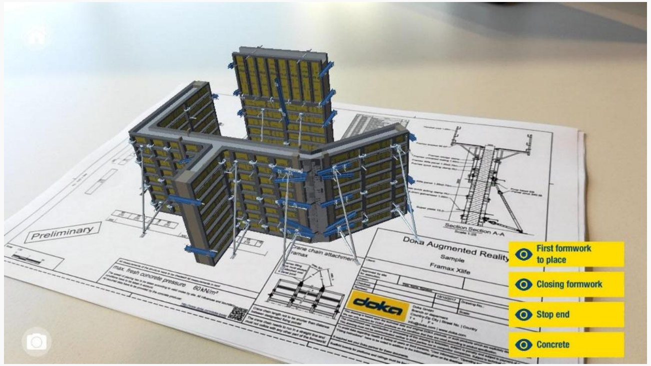
24%

of companies will make significant investments in AR in three years; 5% think it will be the most disruptive tech to their industry.

Source: PwC 2017 Global Digital IQ Survey

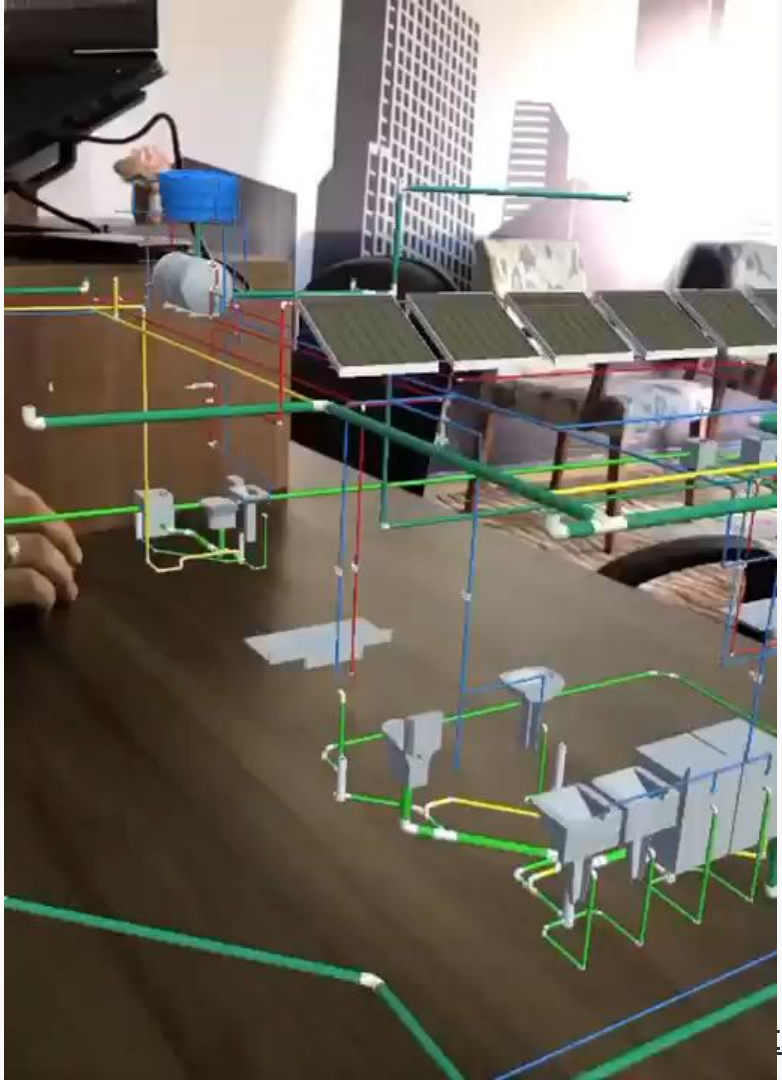






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Which is better for a public meeting?



Virtual reality

- (VR) abolishes logistical limitations and **makes anything possible**.

computer-generated simulation of a **three-dimensional image** or a **complete environment** within a defined space that viewers can **interact** with in realistic ways.

VR **typically requires equipment**, such as a headset.

The gaming and entertainment industries are obvious proving grounds for VR.

However, VR has the **potential** to transform many other industries as well,
especially in the realm of **experiential training** where workers can be put into hazardous, difficult, or cost-prohibitive situations **without** the intense **risks associated** with these activities **in the real world**.











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Drones

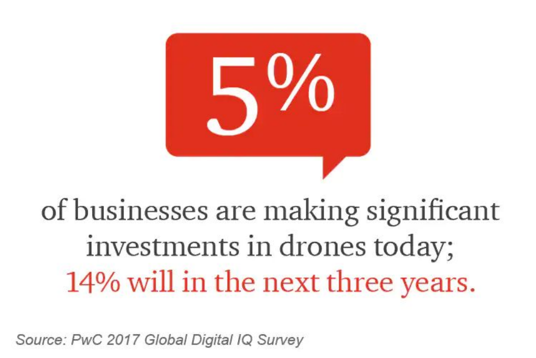
Air or water-based **devices and vehicles** that **fly or move** without an on-board human pilot.

Drones can **operate** autonomously on a pre-defined flight plan or be **controlled remotely**.



Top 10 Uses Of Drones In The Construction Industry

1. Building surveys
2. Inspection of construction worksite
3. Safety and health
4. Maintenance inspections
5. Reporting project progress
6. Promotional photography
7. Live feed
8. Site logistics
9. Laser scanning
10. Thermal imaging





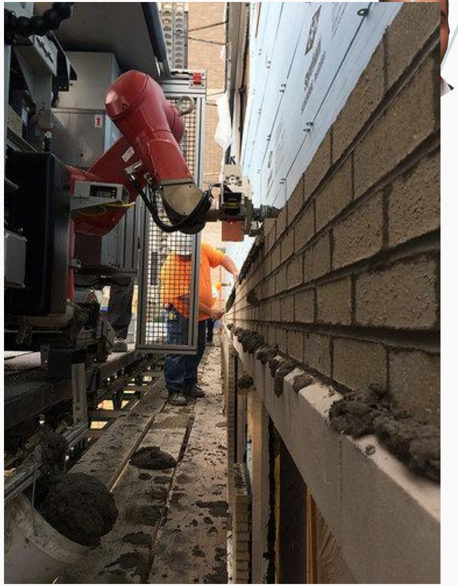
Source https://www.azimuthbuilders.com/blog/top-10-uses-of-drones-in-the-construction-industry

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Robotics

Electro-mechanical **machines** or **virtual agents** that
 automate,
 augment or assist **human** activities
 autonomously **or** according to **set instructions** – often a computer program.
These applications are transforming
 manufacturing and non-manufacturing operations
with new capabilities that address **the challenges** of working in changing, uncertain, and uncontrolled environments,
such as **alongside** humans without being a danger to them.







31% of businesses will make significant investments in robotics in three years;

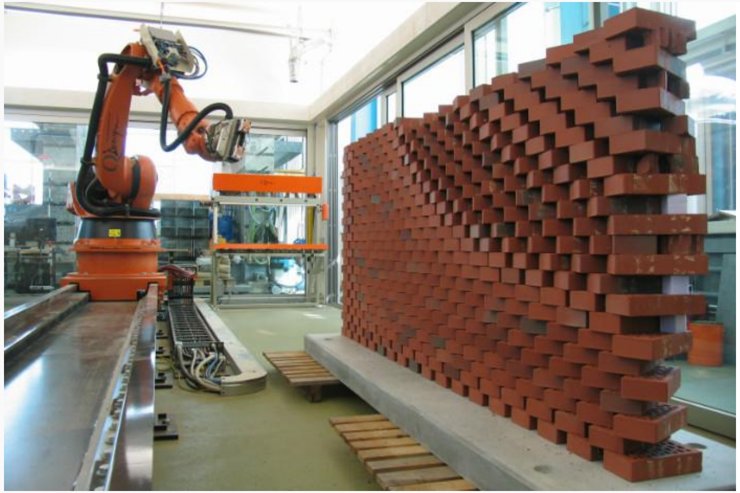
13% say it will be the most disruptive tech to their business model within the next five years.

Source: PwC 2017 Global Digital IQ Survey

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ERO
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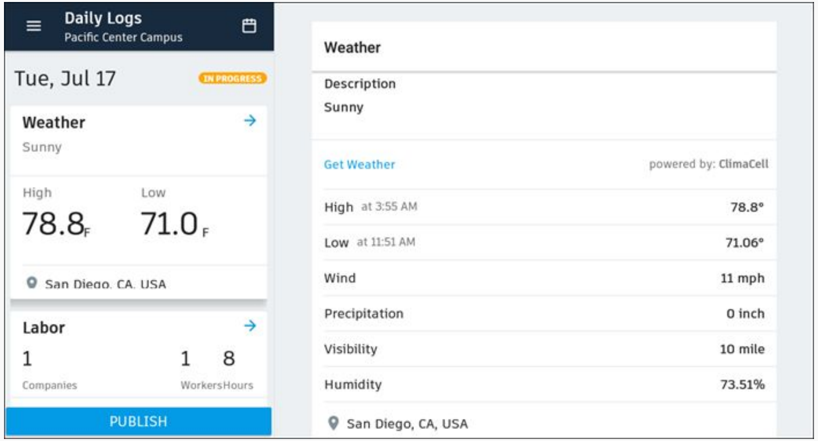


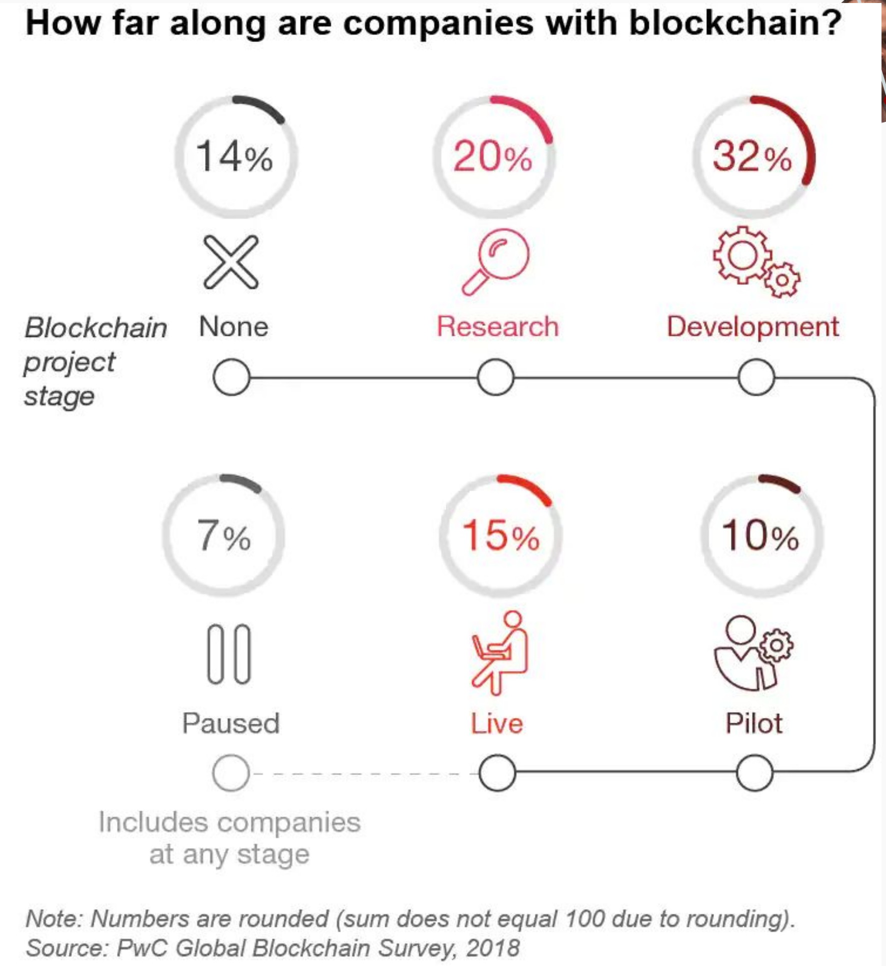


Blockchain

A **distributed electronic ledger** that
 uses algorithms **to record** transactions reliably
and anonymously.

Records are **shared between parties**,
and **information, once entered, cannot be altered** as the downstream chain **reinforces** upstream transactions.





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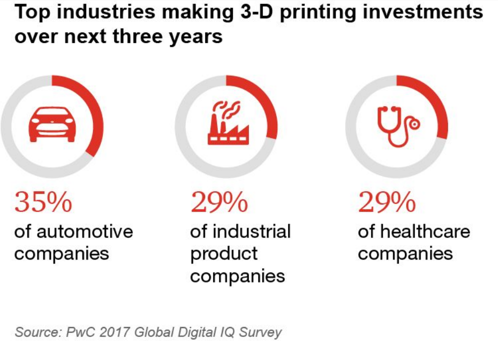
3-D printing

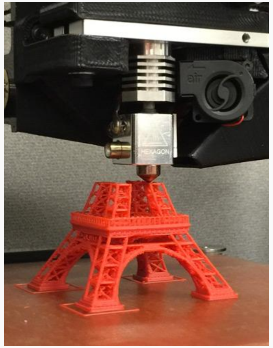
3-D printing creates three-dimensional objects based on digital models by layering or "printing" successive layers of materials.

3-D printing relies on innovative "inks," including plastic, metal, and, more recently, glass and wood.

3-D printing has the potential to turn every large enterprise, small business and living room into a factory.

Bain & Company believes the 3D printing market will grow to a size of $12.5 billion by 2018









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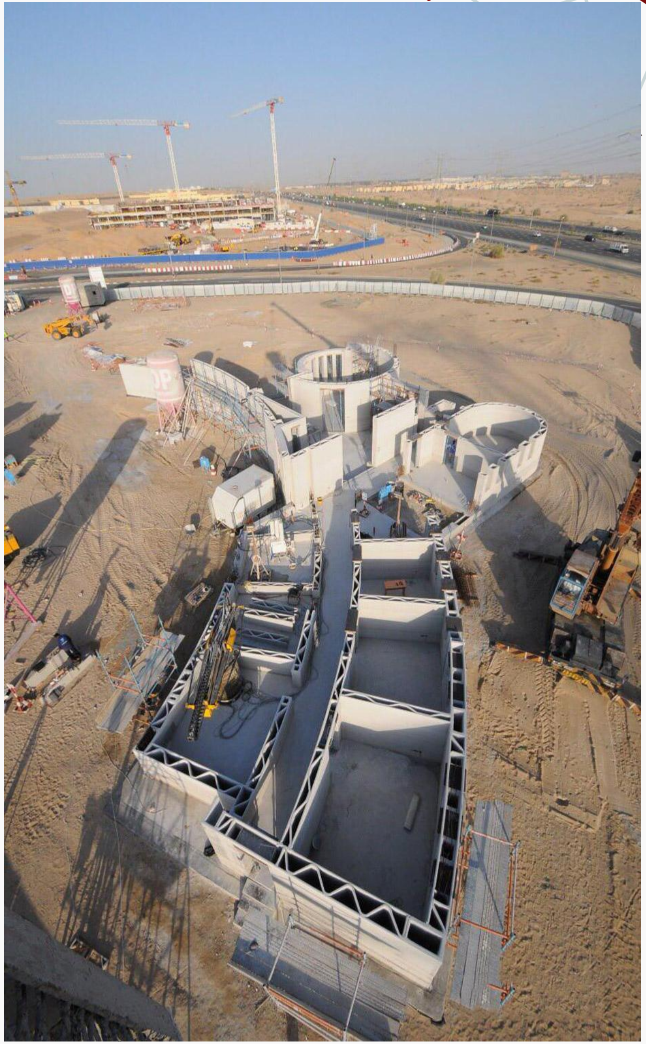
3D Printing











BIM FOR CONSTRUCTION – 3D PRINTING

3D printing is a process of creating a three-dimensional object from a digital file by layering successive slices. This could be achieved by extruding small amounts of molten plastic or using a laser to fuse together tiny particles of powdered material. It is also on ceramics and metals.

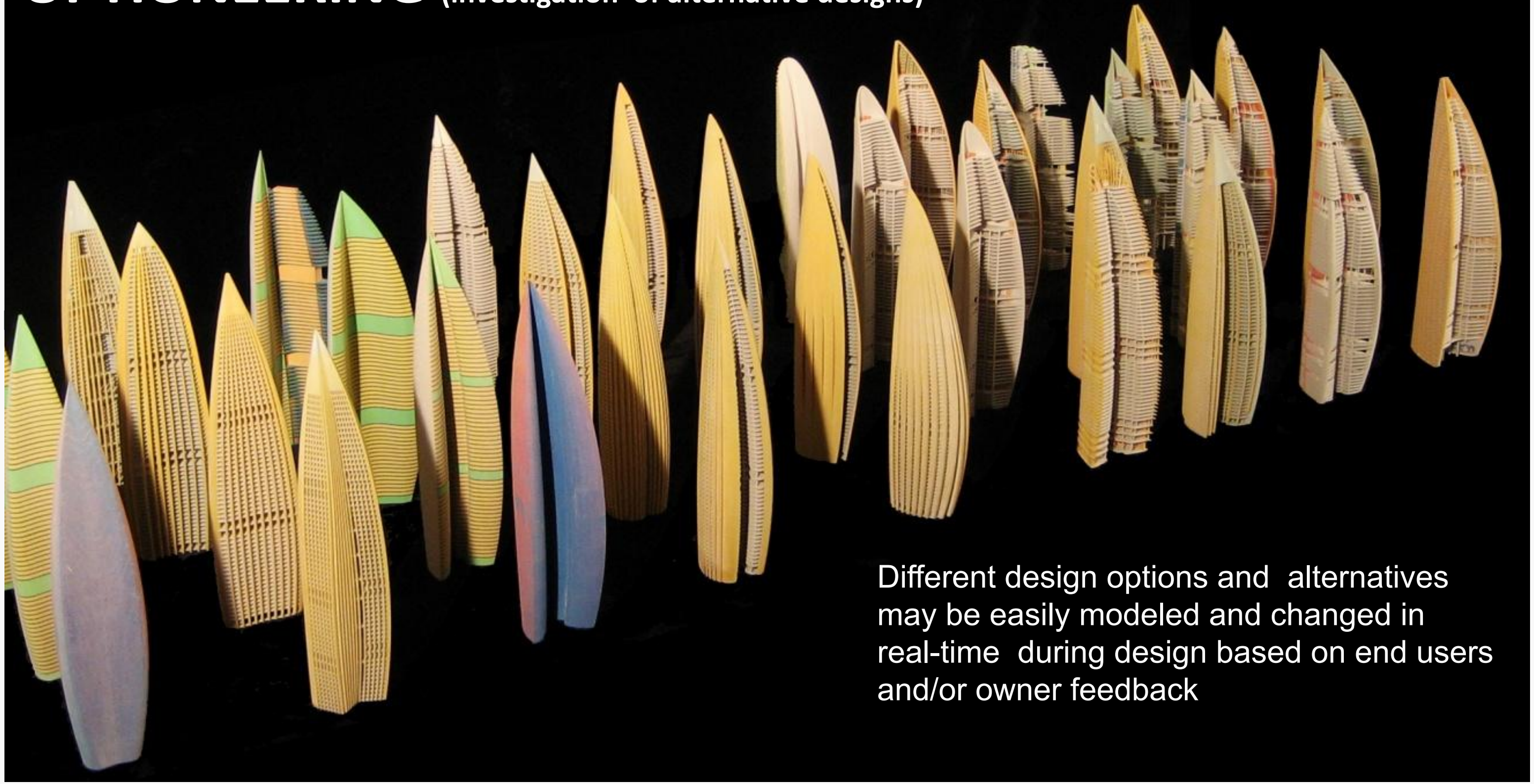


3D Printing. Hong Kong Housing Authority

Why BIM ,,Benefits of BIM,,

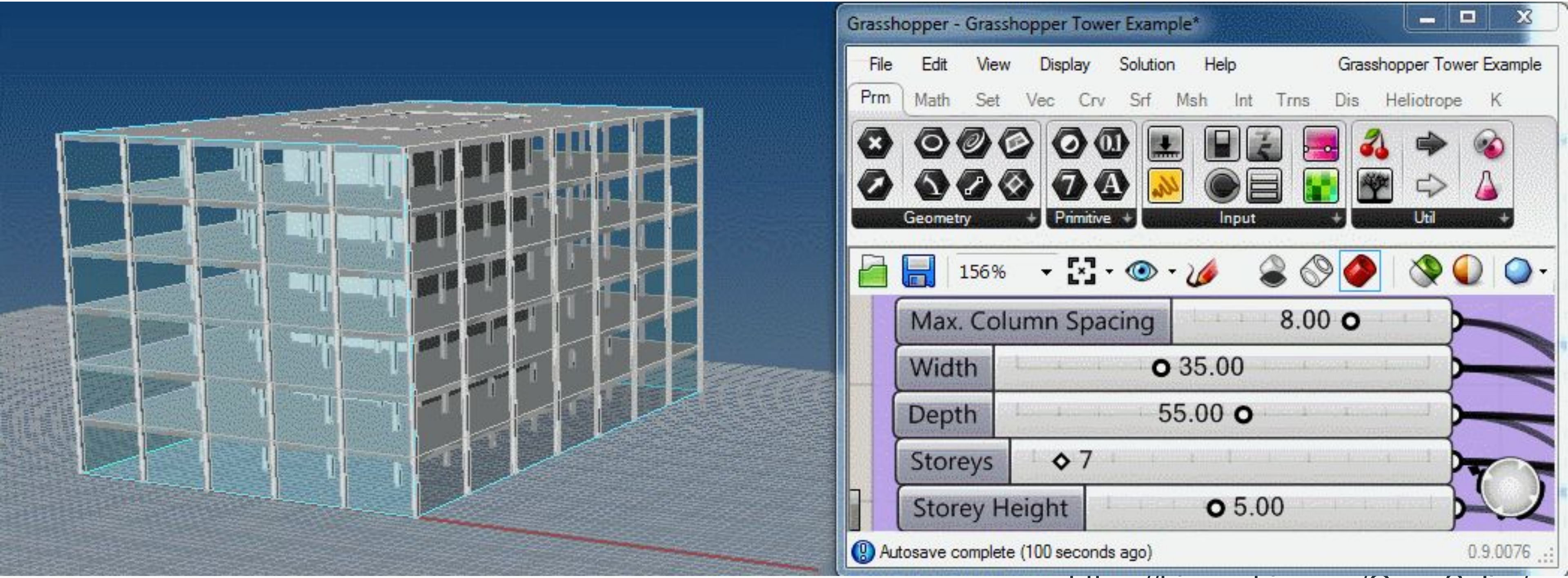
3D P

OPTIONEERING (investigation of alternative designs)



Different design options and alternatives may be easily modeled and changed in real-time during design based on end users and/or owner feedback

Source: Foster +Partners, UK – NBK Project



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Why BIM ,,Benefits of BIM,,

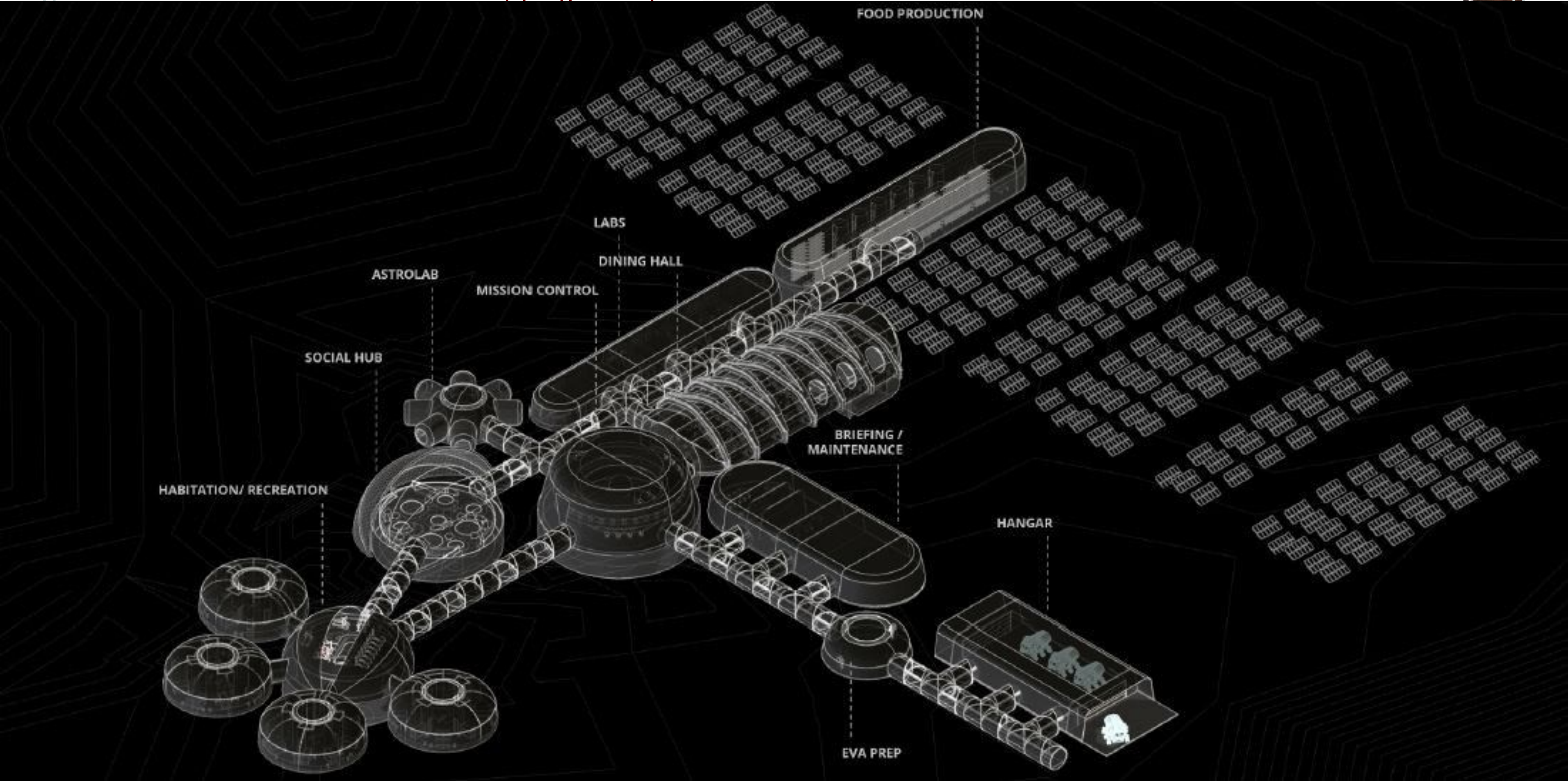




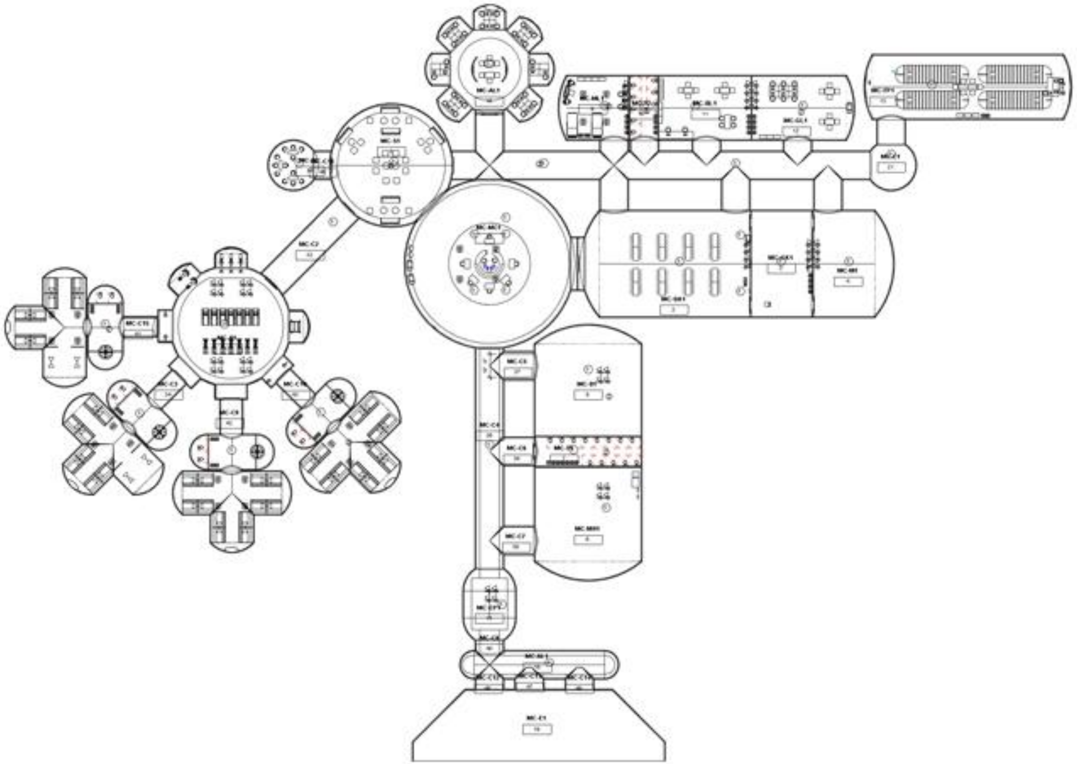
Source: Foster +Partners, UK – NBK Project

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The Mars City program layout.



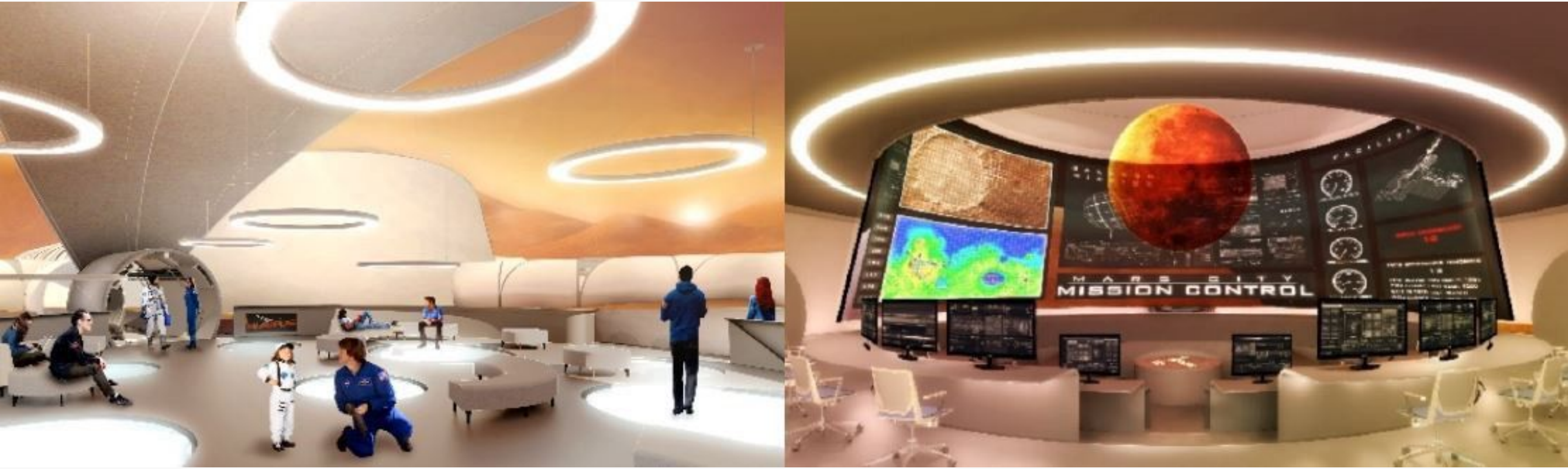






The Mars City model includes Mission Control, dining and recreation spaces, workshops, and sleeping pods—as well as a garage for the Mars Rovers.

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Renderings of the Social Hub and Mission Control sectors within Mars City.

Common Misperceptions



BIM is Revit!	BIM is tool independent, BIM is collaborative process supported by various technology tools
BIM is just 3D CAD model with some attributes	Although the final product might look so, but the efficient approach to develop this intelligent product is the key differentiator
We installed the tools, so we adopted BIM	BIM is a game changer to the entire design process. Not just installing some intelligent packages
BIM is for representation, not production	BIM model can be used for detailed submissions, including 2D cut sheets and shop drawings
BIM is just for clash detection	Applications of BIM are many, clash detection is just one of them
BIM is just for buildings	BIM is feasible and applicable to any type of projects, and throughout the entire workflow
We use BIM in parallel to design/production workflow	Parallel workflows hits the efficiency & intelligence of BIM
BIM replaces CAD	BIM integrates with CAD capabilities and adds on top the intelligent collaborative layer

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BIM Manager

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